

## REPORT

**QUARTERLY GROUNDWATER MONITORING RESULTS,**

**JULY-AUGUST 2000**

AT THE

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
JET PROPULSION LABORATORY**

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Pasadena, California 91109

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## **EXECUTIVE SUMMARY**

Presented in this report are the results of the fifteenth quarterly groundwater sampling event (July-August 2000) completed as part of a long-term quarterly groundwater monitoring program at the NASA-Jet Propulsion Laboratory (JPL). This sampling event was conducted from July 11 through August 8, 2000.

During this event, groundwater samples were collected from JPL monitoring wells (both on- and off-site) and analyzed for volatile organic compounds (VOCs), metals (arsenic, lead, total chromium, and hexavalent chromium), perchlorate, and major anions/cations. Analyses for 1,4-dioxane and NDMA were performed on four samples collected from selected wells to determine whether or not this chemical is present in the groundwater beneath JPL.

Results indicate that only four VOCs (carbon tetrachloride, trichloroethene, tetrachloroethene, and 1,2-dichloroethane) were detected at concentrations above state or Federal Maximum Contaminant Levels (MCLs) for drinking water. In addition, perchlorate was detected at concentrations that meet or exceed the state Interim Action Level (IAL) of 18 µg/L. Hexavalent chromium was found in two wells. To date, an MCL has not been established for hexavalent chromium. Total chromium was detected in six wells. The concentration in one well exceeded the state (0.050 mg/L), but not the Federal MCL (0.100 mg/L). A summary of the sampling procedures is included in Section 2.0, and analytical results are presented in Section 3.0.

Results from major anion/cation analyses (water chemistry) were used to identify the general water types beneath JPL. These results are presented in Section 4.0. Water-level elevations were measured before and after sampling activities to determine groundwater gradients and flow directions present during sampling. Water-level measurements are presented in Section 5.0. Groundwater flow was observed to be primarily to the south and east across JPL, with a zone of depression in the water table around the nearby operating City of Pasadena municipal production wells.

## 1.0 INTRODUCTION

This report summarizes the results from the fifteenth groundwater sampling event completed as part of the Long-Term Quarterly Monitoring Program currently being conducted at the NASA-Jet Propulsion Laboratory (JPL). The Long-Term Quarterly Monitoring Program was initiated in 1996 in response to a request from the United States Environmental Protection Agency (EPA). The program began during the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation for on-site and off-site groundwater at JPL. The purpose of the program is to monitor the elevation, flow direction, and quality of the groundwater beneath and adjacent to the JPL site.

From July 12, to August 4, 2000, Foster Wheeler Environmental Corporation (Foster Wheeler) personnel collected samples from on- and off-site JPL monitoring wells. In addition, the water-level elevation at each well was measured prior to (July 11, 2000), and after (August 8, 2000) sampling to evaluate groundwater flow directions and gradients.

The locations of the JPL groundwater monitoring wells are shown in Figure 1-1. Monitoring wells MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-24 are deep multi-port wells, each containing five screened intervals equipped with a Westbay Instruments, Inc. (Westbay) multi-port casing system. Monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-13, MW-15, and MW-16 are relatively shallow standpipe wells, each containing a single screened interval located just below the water table. Monitoring well MW-2 was not sampled since it was replaced with well MW-14 (Figure 1-1) as a JPL sampling point. A summary of the well construction details for the JPL groundwater monitoring wells is included in Table 1-1.

All of the JPL groundwater samples were taken to Montgomery Watson Laboratories in Pasadena, California, for chemical analysis. Montgomery Watson Laboratories is certified by the California Department of Health Services (CADHS). The following analyses were performed on the samples collected at JPL:

Analysis	Well (Screen)	EPA Method
Volatile Organic Compounds (VOCs)	All	524.2
Total Chromium (Cr)	All	200.8
Hexavalent Chromium [Cr(VI)]	All	7196
Total Lead (Pb)	All	200.8
Total Arsenic (As)	All	200.9
Major Cations and Major Anions	All	Various

<b>Analysis</b>	<b>Well (Screen)</b>	<b>EPA Method</b>
Perchlorate ( $\text{ClO}_4^-$ )	All	314.0, modified
1,4-Dioxane	MW-7, MW-13, MW-16, MW-24 (Screen 1)	8270
NDMA	MW-7, MW-13, MW-16, MW-24 (Screen 1)	1625, modified

In addition to groundwater samples, field quality assurance/quality control (QA/QC) samples, including trip blanks, equipment blanks, duplicate samples, and a field blank were collected for laboratory analysis. Sampling records for each shallow well are included in Appendix A, and sampling records and piezometric pressure profiling records for each deep multi-port well are included in Appendix B. Field instrument calibration forms are included in Appendix C, and laboratory analytical reports and associated chain-of-custody forms are included in Appendix D.

## **2.0 SAMPLING AND FIELD QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES**

Two different procedures were used in collection of groundwater samples at JPL, one designed for the shallow wells and the other for the deep multi-port wells. These procedures are outlined below.

### **2.1 SHALLOW MONITORING WELLS**

The sampling procedure described below was applied to all the shallow JPL monitoring wells, which includes monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-13, MW-15, and MW-16.

The primary equipment used to sample the shallow wells included dedicated 2-inch Grundfos Redi-Flo<sup>2</sup>® pumps, a pump controller, and a 220-volt generator. All of the dedicated 2-inch Grundfos Redi-Flo<sup>2</sup>® pump systems were decontaminated prior to their installation before the beginning of the long-term quarterly monitoring program. Details of the decontamination procedures for the Grundfos Redi-Flo<sup>2</sup>® pump systems are outlined in a previous document (Ebasco, 1993a).

Prior to sample collection, the water in each shallow well casing was purged (by pumping) to remove groundwater that may have been exposed to the atmosphere and thus may not be representative of undisturbed aquifer conditions. This purged groundwater was discharged into 500- or 1,000-gallon polyethylene storage tanks for disposal by JPL personnel pursuant to Environmental Protection Agency (EPA) guidance (EPA, 1991 and 1992).

Temperature, pH, electrical conductivity, and turbidity of the water removed from each well were monitored during purging. After these parameters had stabilized (when two successive measurements made approximately 3 minutes apart were within 10 percent of each other) and the turbidity was less than 5 Nephelometric Turbidity Units, the groundwater samples were collected with the dedicated pump. During sampling for VOCs, the pump rate was reduced to approximately 0.02 gallons per minute to minimize sample agitation. All information concerning sampling was noted on the Well Development/Well Sampling Log forms included in Appendix A.

All sample bottles were filled completely (though not allowed to overflow), capped, labeled, and placed in a cooler with ice immediately thereafter. Samples collected for VOCs had zero headspace.

Calibration, or standardization, of the field instruments used to measure temperature, pH, electrical conductivity, and turbidity, was performed to the manufacturer's specifications at the beginning and end of each sampling day. Field instrument calibration forms are included in Appendix C.

## 2.2 DEEP MULTI-PORT MONITORING WELLS

Sampling of the deep multi-port monitoring wells at JPL required specialized sampling equipment manufactured by Westbay. This equipment included a pressure profiling/sampling probe with a surface control unit. Field personnel using this equipment were trained by Westbay personnel to ensure proper use. Copies of the detailed operations manuals for the Westbay pressure profiling/sampling probe are included in the OU-1 and OU-3 Field Sampling and Analysis Plans (Ebasco, 1993a; 1994).

The Westbay sampling probe and sample-collection bottles were decontaminated prior to sampling each screened interval in the deep multi-port wells according to the following procedures:

- Wash each 250-mL stainless-steel sample-collection bottle in a solution of non-phosphate detergent (Liquinox®) and distilled water followed by washing each bottle in a solution of an acidic detergent (Citanox®) and American Society of Testing Materials (ASTM) Type II deionized water.
- Rinse each bottle with ASTM Type II water.
- The interior surfaces of the Westbay sampling probe, and the hoses and valves associated with the Westbay sample bottles, were decontaminated by forcing several volumes of a solution of Liquinox® and distilled water through them followed by forcing several volumes of a Citanox® and ASTM Type II water solution through them. A final rinse with ASTM Type II water was carried out. Each of these decontamination procedures was completed using a clean plastic spray bottle used only for this purpose.

Purging before sampling is not required in the deep multi-port monitoring wells because the groundwater sample is collected directly from the aquifer, thus ensuring that the groundwater sample has not been exposed to the atmosphere. However, at each screened interval an initial sample was collected in order to check temperature, pH, electrical conductivity, and turbidity in the field, and to rinse the Westbay stainless-steel sample-collection bottles with formation water. Samples for laboratory analysis were then collected and transferred to sample containers as described in Section 2.1. A final sample was then collected and the temperature, pH, electrical conductivity, and turbidity were measured to ensure continuity of aquifer conditions during sampling. Results of the field analyses were recorded on well development logs, which are included in Appendix B. Calibration of field instruments was carried out according to procedures described previously (Ebasco, 1993a; 1994).

## **2.3 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES**

To verify the quality of the groundwater samples collected from the JPL monitoring wells, field QA/QC samples were collected. The field QA/QC program included the collection of duplicate samples, equipment blanks, trip blanks, and a field blank. In addition, laboratory QA/QC samples were used by the laboratory according to analytical method requirements.

Duplicate samples for VOCs, metals and perchlorate ( $\text{ClO}_4^-$ ) analyses were collected from shallow groundwater monitoring wells MW-10 and MW-13, and deep multi-port monitoring wells MW-4 (Screen 2) and MW-12 (Screen 2). In addition, after every 10 samples that were collected for VOC analyses, a matrix-spike (MS) sample and a matrix-spike-duplicate (MSD) sample were collected and submitted to the laboratory for use in verifying the accuracy of the analytical method. Similarly, after every 10 samples that were collected for metals analyses, an MS/MSD sample was collected and submitted to the laboratory for analytical method verification. A MS and a MSD sample for 1,4-dioxane were also submitted.

One equipment blank was collected from the Westbay sample-collection bottles during each day of sampling of the deep multi-port wells. Equipment blanks consisted of ASTM Type II water (provided by the laboratory) which had been passed through the sampling equipment after the equipment had been decontaminated. Equipment blanks were analyzed for the same constituents (except cations and anions) as the groundwater samples to identify potential cross contamination due to inadequate decontamination procedures. Equipment blanks were not collected during sampling of the shallow wells as dedicated sampling equipment was used.

A trip blank, consisting of ASTM Type II water placed in two 40-mL glass vials by the laboratory, was transported with the empty sample bottles to the field and back to the laboratory with the groundwater samples. One trip blank was submitted for VOC analysis with each shipment of groundwater samples to the laboratory. Trip blanks were used to identify potential cross contamination of groundwater samples during transport.

During this sampling event, one field blank was collected at monitoring well MW-7. The field blank is used to determine whether ambient conditions or sample containers may effect analytical results. The field blank consisted of sample bottles, filled with ASTM Type II water supplied by the laboratory, left open at the well head during the sampling of the well. After sampling, the bottles containing the field blank were capped and analyzed for the same constituents as the groundwater samples, except for cations and anions, which are used solely for the purpose of identifying water types beneath and adjacent to the JPL site.

### **3.0 ANALYTICAL RESULTS**

JPL groundwater monitoring wells MW-1, and MW-3 through MW-24 were sampled from July 12 to August 4, 2000. Monitoring well MW-2 is not included in the monitoring program, as it was replaced as a JPL monitoring point by deep multi-port monitoring well MW-14.

The groundwater samples collected during this sampling event were analyzed for volatile organic compounds (VOCs), total chromium (Cr), hexavalent chromium [Cr(VI)], total lead (Pb), total arsenic (As), and perchlorate ( $\text{ClO}_4^-$ ). Samples collected from selected wells/screens were also analyzed for 1,4-dioxane and N-nitrosodimethylamine (NDMA). In addition, all samples were analyzed for general water chemistry parameters that included major cations and anions [sodium (Na), potassium (K), calcium (Ca), magnesium (Mg), iron (Fe), alkalinity ( $\text{CO}_3 + \text{HCO}_3$ ), chloride (Cl), sulfate ( $\text{SO}_4$ ), nitrate ( $\text{NO}_3^-$ )], total dissolved solids (TDS), electrical conductivity, and pH. A summary of the samples collected, sample numbers used, and the analyses performed on each sample is presented in Table 3-1. Analytical laboratory reports and associated chain-of-custody forms are included in Appendix D.

#### **3.1 VOLATILE ORGANIC COMPOUNDS RESULTS**

Groundwater samples collected during the July-August 2000 sampling event were analyzed for over 60 different VOCs in accordance with EPA Method 524.2. To present the results on concentration contour maps, the JPL aquifer was divided into four aquifer layers based primarily on correlations interpreted from lithologic cross sections. Listed in Table 3-2 are the JPL monitoring well screens and their corresponding aquifer layers. Results of the analyses for VOCs in the July-August 2000 samples are summarized in Table 3-3 along with the Maximum Contaminant Levels (MCLs) for drinking water as listed in Title 22 of the California Code of Regulations and in the EPA Health Advisory Guidelines. A small number of compounds were detected in the JPL samples, and only four VOCs [carbon tetrachloride ( $\text{CCl}_4$ ), trichloroethene (TCE), tetrachloroethene (PCE), and 1,2-dichloroethane (1,2-DCA)] were found in concentrations exceeding state and/or Federal MCLs (Table 3-3). The concentrations of  $\text{CCl}_4$ , TCE, PCE, and 1,2-DCA detected in each aquifer layer are contoured on site maps to show the spatial distribution of each constituent. For instances where a constituent was not detected in a particular aquifer layer, a contour map was not prepared for that constituent in that particular layer. Carbon tetrachloride concentrations detected in aquifer Layers 1, 2, and 3 are contoured in Figures 3-1, 3-2, and 3-3, respectively. Figures 3-4, 3-5, and 3-6 display contours of TCE concentrations detected in Layers 1, 2, and 3, respectively, and Figure 3-7 contains contours of 1,2-DCA concentrations detected in aquifer Layer 1. Figures 3-8, 3-9, and 3-10 show contours of

PCE detected in aquifer Layers 1, 2, and 3. A summary of the VOC results compiled from all long-term quarterly sampling events completed to date is provided in Table 3-4.

CCl<sub>4</sub> in excess of the state MCL (0.5 µg/L) was found in eight on-site wells and one off-site well (Table 3-3, Figures 3-1, 3-2, and 3-3). The Federal MCL (5.0 µg/L) was exceeded in six on-site wells. The highest concentrations of CCl<sub>4</sub> were found in on-site wells MW-7, MW-12 (Screen 3), MW-16, MW-24 (Screens 1 and 2) and MW-3 (Screen 3).

TCE concentrations met or exceeded the state and Federal MCL (5.0 µg/L) in four on-site wells, and two off-site wells (Table 3-3, Figures 3-4, 3-5, and 3-6). The highest levels of TCE were found in on-site wells MW-7, MW-13, MW-16, and off-site well MW-21 (Screen 1).

1,2-DCA was detected in two on-site wells (MW-13 and MW-16) in excess of its state MCL (0.5 µg/L) (Table 3-3 and Figure 3-7). 1,2-DCA was not detected in any off-site well. The Federal MCL for 1,2-DCA (5.0 µg/L) was not exceeded in any well.

PCE was detected at low levels in several on-site and off-site wells (Figures 3-8, 3-9, and 3-10). The state and Federal MCL (5.0 µg/L) was exceeded only in off-site well, MW-21 (Screens 4 and 5).

### **3.2 PERCHLORATE RESULTS**

Perchlorate analyses were conducted on groundwater samples from the July-August 2000 event using ion chromatography (EPA 314.0, modified). Results are included in Table 3-3. No MCLs for ClO<sub>4</sub><sup>-</sup> have been established to date, however, the California Department of Health Services has established an Interim Action Level (IAL) of 18 µg/L for ClO<sub>4</sub><sup>-</sup>. Perchlorate was detected in a total of 17 wells (Table 3-3). Concentrations in six of the seventeen wells exceeded the Interim Action Level (18 µg/L). Perchlorate concentrations are contoured in Figures 3-11, 3-12, and 3-13 for aquifer Layers 1, 2, and 3, respectively. The highest ClO<sub>4</sub><sup>-</sup> levels were observed on-site in wells MW-7, MW-13, MW-16, and MW-24 (Screens 1 and 2).

### **3.3 METALS RESULTS**

Groundwater samples were analyzed for the following suite of metals: total As, total Pb, total Cr, and Cr(VI). The results of these analyses are summarized below and in Table 3-5.

Total As and total Pb were not detected in any sample collected during the July-August 2000 event. Total Cr was detected in five wells, MW-4 (Screen 2), MW-7, MW-8, MW-10, and MW-13 at concentrations below state and Federal drinking water standards (0.05 and 0.10 mg/L, respectively) and in well MW-6 just above the state drinking water standard, but below the

Federal standard. Hexavalent chromium was detected in two on-site shallow wells, MW-13 and MW-16. At this time, neither state nor Federal agencies have established an MCL for Cr(VI).

Table 3-6 contains a summary of metals data from all quarterly sampling events completed to date during the long-term monitoring program.

### **3.4 1,4-DIOXANE AND NDMA RESULTS**

Groundwater samples were collected from four locations [MW-7, MW-13, MW-16, and MW-24 (Screen 1)] during the July-August 2000 sampling event and analyzed for 1,4-dioxane and NDMA to screen for the presence of these chemicals in the groundwater beneath JPL. Samples from these four wells have historically contained the highest concentrations of VOCs at JPL. 1,4-Dioxane was analyzed using EPA Method 8270 and NDMA was analyzed using EPA Method 1625 (modified). At this time, state or Federal MCLs have not been established for either of these compounds. The method detection limits for 1,4-dioxane and NDMA are 3.0 µg/L and 0.002 µg/L, respectively. 1,4-Dioxane and NDMA were not detected in any of the four samples collected.

### **3.5 QUALITY ASSURANCE/QUALITY CONTROL RESULTS**

Review of the QA/QC data provided with the laboratory analytical results (Appendix D) indicates that results obtained from July-August 2000 samples are acceptable for their intended use of characterizing aquifer quality. Surrogate compound, matrix and blank spike, and method blank results were used by the laboratory to determine the accuracy and precision of the analytical techniques with respect to the JPL groundwater matrix, and to identify anomalous results due to laboratory contamination or instrument malfunction.

In addition to laboratory QA/QC samples, Foster Wheeler personnel collected QA/QC samples in the field. These samples included duplicate samples, equipment blanks, trip blanks, and a field blank.

Duplicate samples were used to evaluate the precision of the laboratory analyses. Duplicate groundwater samples were collected from MW-4 (Screen 2), MW-10, MW-12 (Screen 2), and MW-13, and analyzed for VOCs, ClO<sub>4</sub><sup>-</sup>, and metals. All of the analytical results for the duplicate samples were similar to the results of the original groundwater samples (Table 3-3 and Table 3-5).

Fourteen equipment blanks and seventeen trip blanks were submitted for analysis during the July-August 2000 sampling event. Chloroform was detected at very low levels (<3.5 µg/L) in the field blank and all equipment blanks. Some groundwater samples associated with these blanks also had detectable concentrations of chloroform, but were well below state and Federal drinking water standards (100 µg/L) (Tables 3-1 and 3-3). This has occurred in some previous sampling

events and it is suspected that very low levels of chloroform were likely present in the deionized water used for the field and equipment blanks.

## **4.0 GENERAL WATER CHEMISTRY**

As part of this groundwater monitoring event, groundwater samples were submitted for analysis of major cations and anions in an effort to further understand the natural water chemistry of the groundwater beneath and adjacent to JPL. Samples from each of the JPL shallow monitoring wells and each of the deep multi-port wells were analyzed for major cations (Ca, Fe, Mg, Na, and K), major anions (Cl, SO<sub>4</sub>, NO<sub>3</sub>, CO<sub>3</sub> + HCO<sub>3</sub>), pH, and total dissolved solids (TDS). The water chemistry results for this quarterly sampling event are summarized in Table 4-1.

### **4.1 ANALYTICAL RESULTS**

To illustrate the relative proportions of the major cations and anions in each groundwater sample, the water chemistry results from the July-August 2000 event have been compiled as Stiff diagrams (Figures 4-1, 4-2, and 4-3). Review of the water chemistry data indicates that the majority of groundwater sampled at JPL can be classified as one of three general types, based on the predominant cation and anion, and the occurrence of other ions. These general water types include:

- Type 1. Calcium-bicarbonate groundwater. Groundwater with Ca as the dominant cation and HCO<sub>3</sub> as the dominant anion.
- Type 2. Sodium-bicarbonate groundwater. Groundwater with Na as the dominant cation and HCO<sub>3</sub> as the dominant anion.
- Type 3. Calcium-bicarbonate/chloride/sulfate groundwater. Groundwater with Ca as the dominant cation and HCO<sub>3</sub> as the dominant anion, but with relatively elevated Cl and SO<sub>4</sub> concentrations.

In addition to the general water types described above, the analytical data suggest that these water types mix, or blend with one another, creating “intermediate” water types. For example, water Types 1 and 2 can mix to create a 1+2 or a 2+1 type, where the first number indicates the general water type that is predominant in the mixture. The Stiff diagrams presented in Figures 4-1 through 4-3 contain some graphical representations of these “intermediate” water types.

Water Type 1, the calcium-bicarbonate water type, was the most common water type at JPL during the July-August 2000 sampling event. In general, it was found at relatively shallow depths in wells located around the Arroyo Seco. Water Type 2, the sodium-bicarbonate water type (including associated blends), was typically found in the deeper well screens of both the on-site and off-site multi-port wells. Type 3 groundwater, the calcium-bicarbonate/chloride/sulfate water type, was prevalent in the shallower screens of the monitoring wells located upgradient and to the

south of the JPL facility. A list of water types and JPL monitoring wells in which they occur is provided in Table 4-2.

## 4.2 QUALITY ASSURANCE/QUALITY CONTROL RESULTS

To evaluate the general quality of the water chemistry data, two independent geochemical quality control checks of the analytical results from the July-August 2000 samples were performed. These checks included calculation of total ion-charge balances, and comparison of measured TDS to calculated TDS. The results of these checks for the July-August 2000 water-chemistry results are presented in Table 4-3. Charge balances are expressed as the percent difference between the sum of the equivalent weights of all of the anions and all of the cations analyzed (Freeze and Cherry, 1979). The ideal range for charge balances is  $\pm 5$  percent, although charge balance errors up to  $\pm 10$  percent are considered acceptable.

The charge balances for 72 of the 75 samples analyzed for major anions and cations during the July-August 2000 sampling event are within the ideal range ( $\pm 5$  percent) for all wells. Two of the samples had charge balances slightly higher than  $\pm 5$  percent, and one sample had a charge balance a little over  $\pm 10$  percent. This indicates that the results are acceptable for their intended use.

TDS results can be used to verify that all of the important water-chemistry constituents have been analyzed. This is done by comparing the measured laboratory TDS value to a calculated TDS value (calculated as the sum of the concentrations of all the major anions and cations) for each sample. Under ideal conditions, the ratio should range from 1.0 to 1.2 (Oppenheimer and Eaton, 1986).

The ratio of measured to calculated TDS values for the July-August 2000 water-chemistry results fell within the ideal range (1.0 to 1.2) for 71 of the 75 sets of water chemistry analyses performed (Table 4-3). The ratio for the remaining four sets of water chemistry data fell slightly outside this ideal range suggesting minor analytical errors or errors in the measured TDS values. However, these data are suitable for their intended use of identifying differences in water chemistry across the site.

## 5.0 WATER-LEVEL MEASUREMENTS

Water-level measurements were recorded before sampling, on July 11, 2000, and after sampling, on August 8, 2000, to evaluate groundwater flow directions and gradients beneath and adjacent to JPL. Water-level data in the shallow wells were collected using a Solinst® water-level meter that utilized a water-sensor probe attached to a measuring tape. As the probe was lowered into a well, contact with the groundwater completed a circuit between two electrodes in the probe, thus activating a sounding device attached to a reel at the surface. Depth to groundwater was then read directly from the measuring tape at the top of the well casing.

In the deep multi-port wells, the hydraulic head at each sampling port in each screened interval was measured with a pressure-transducer probe manufactured by Westbay specifically for the unique casing used in these wells.

Water-table elevation measurements taken before sampling are provided in Table 5-1 and have been contoured in Figure 5-1. Water-table elevation measurements taken after sampling are provided in Table 5-2 and have been contoured in Figure 5-2. The hydraulic heads measured at each deep multi-port well screen before and after sampling are presented graphically in Figures 5-3 and 5-4, respectively. The pressure-profile records for the deep wells are included in Appendix B.

As indicated by Figures 5-1 and 5-2, groundwater flow was primarily to the south and east both before and after sampling. The “trough” of depression observed around the City of Pasadena municipal production wells (Figures 5-1 and 5-2) is the result of active pumping by several of these wells throughout this sampling event. This is also indicated by data shown in Figures 5-3 and 5-4 where the effects of municipal well pumping are reflected by relatively large drawdowns in the hydraulic heads measured at the lowermost screens within the multi-port wells closest to the production wells (MW-3, -4, -11, -12, -17, and -19).

## **6.0 REFERENCES**

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**TABLE 1-1****SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS**

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
MW-1	Shallow Standpipe	1989	Mud Rotary	120	70-110	1116.7	1006.70-1046.70	-	99		4" PVC
MW-2	Shallow Standpipe	1989	Mud Rotary	177	127-167	1168.85	1001.85-1041.85	-			
MW-3	Deep Multi-Port	1990	Mud Rotary	700	170-180 250-260 344-354 555-565 650-660	1099.82 839.82-849.82 745.82-755.82 534.82-544.82 433.82-443.82	919.82-929.82 839.82-849.82 745.82-755.82 534.82-544.82 433.82-443.82	1 2 3 4 5	37 47 45 39 64	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-4	Deep Multi-Port	1990	Mud Rotary	559	147-157 237-247 318-328 389-399 509-519	1082.72 835.72-845.72 754.72-764.72 683.72-693.72 563.72-573.72	925.72-935.72 835.72-845.72 754.72-764.72 683.72-693.72 563.72-573.72	1 2 3 4 5	48 34 42 54 52	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-5	Shallow Standpipe	1990	Air Percussion	140	85-135	1071.6	936.60-986.60	-	71	0.010	4" low-carbon steel
MW-6	Shallow Standpipe	1990	Air Percussion	245	195-245	1188.52	943.52-993.52	-	62	0.010	4" low-carbon steel
MW-7	Shallow Standpipe	1990	Air Percussion	275	225-275	1212.88	937.88-987.88	-	63	0.010	4" low-carbon steel
MW-8	Shallow Standpipe	1992	Air Percussion	205	155-205	1139.53	934.53-984.53	-	75	0.010	4" low-carbon steel
MW-9	Shallow Standpipe	1992	Air Percussion	68	18-68	1106.02	1038.02-1088.02	-	56	0.010	4" PVC
MW-10	Shallow Standpipe	1992	Air Percussion	155	105-155	1087.71	932.71-982.71	-	67.5	0.010	4" PVC (0-85') 4" stainless steel (85'-105')
MW-11	Deep Multi-Port	1992	Mud Rotary	680	140-150 250-260 420-430 515-525 630-640	1139.35 879.35-889.35 709.35-719.35 614.35-624.35 499.35-509.35	989.35-999.35 879.35-889.35 709.35-719.35 614.35-624.35 499.35-509.35	1 2 3 4 5	24 22 26 26 28	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel

**TABLE 1-1****SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS**

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
MW-12	Deep Multi-Port	1994	Mud Rotary	596	135-145 240-250 315-325 430-440 546-556	1102.14	957.14-967.14 852.14-862.14 777.14-787.14 662.14-672.14 546.14-556.14	1 2 3 4 5	22 19 21 22 21	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-13	Shallow Standpipe	1994	Air Rotary	235	180-230	1183.47	953.47-1003.47	-	65	0.010	4" PVC
MW-14	Deep Multi-Port	1994	Mud Rotary	588	205-215 275-285 380-390 453-463 538-548	1173.42	958.42-968.42 888.42-898.42 783.42-793.42 710.42-720.42 625.42-635.42	1 2 3 4 5	22 26 22 27 21	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-15	Shallow Standpipe	1994	Air Percussion	74	19-69	1120.66	1051.66-1101.66	-	60	0.010	4" stainless steel
MW-16	Shallow Standpipe	1994	Air Percussion	285	230-280	1236.27	956.27-1006.27	-	62	0.010	4.5" PVC
MW-17	Deep Multi-Port	1995	Mud Rotary	774	246-256 366-376 466-476 578-588 723-733	1190.99	934.99-944.99 814.99-824.99 714.99-724.99 602.99-612.99 457.99-467.99	1 2 3 4 5	24 24 27 25 22	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-18	Deep Multi-Port	1995	Mud Rotary	732	266-276 326-336 421-431 561-571 681-691	1225.34	949.34-959.34 889.34-899.34 794.34-804.34 654.34-664.34 534.34-544.34	1 2 3 4 5	22 24 20 22 23	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-19	Deep Multi-Port	1995	Mud Rotary	543	240-250 310-320 390-400 442-452 492-502	1143.2	893.20-903.20 823.20-833.20 743.20-753.20 691.20-701.20 641.20-651.20	1 2 3 4 5	20 20 17 20 22	0.010 0.010 0.010 0.010 0.010	4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel 4" low-carbon steel
MW-20	Deep Multi-Port	1995	Mud Rotary	948	228-238 388-398	1164.89	926.89-936.89 766.89-776.89	1 2	24 23	0.010 0.010	4" low-carbon steel 4" low-carbon steel

**TABLE 1-1****SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS**

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
				558-568		596.89-606.89	3	19	0.010	4"	low-carbon steel
				698-708		456.89-466.89	4	23	0.010	4"	low-carbon steel
				898-908		256.89-266.89	5	27	0.010	4"	low-carbon steel
MW-21	Deep Multi-Port	1995	Mud Rotary	416	86-96	1058.99	962.99-972.99	1	26	0.010	4" low-carbon steel
					156-166		892.99-902.99	2	25	0.010	4" low-carbon steel
					236-246		812.99-822.99	3	21	0.010	4" low-carbon steel
					306-316		742.99-752.99	4	22	0.010	4" low-carbon steel
					366-376		682.99-692.99	5	22	0.010	4" low-carbon steel
MW-22	Deep Multi-Port	1997	Mud Rotary	634	239-249	1176.81	927.81-937.81	1	24	0.010	4" low-carbon steel
					324-334		842.81-852.81	2	21	0.010	4" low-carbon steel
					384-394		782.81-792.81	3	22	0.010	4" low-carbon steel
					464-474		702.81-712.81	4	23	0.010	4" low-carbon steel
					584-594		582.81-592.81	5	22	0.010	4" low-carbon steel
MW-23	Deep Multi-Port	1997	Mud Rotary	590	170-180	1108.34	928.34-938.34	1	23	0.010	4" low-carbon steel
					250-260		843.34-858.34	2	20.5	0.010	4" low-carbon steel
					315-325		783.34-793.34	3	18	0.010	4" low-carbon steel
					440-450		658.34-668.34	4	25	0.010	4" low-carbon steel
					540-550		558.34-568.34	5	22.5	0.010	4" low-carbon steel
MW-24	Deep Multi-Port	1997	Mud Rotary	725	275-285	1200.91	915.91-925.91	1	25	0.010	4" low-carbon steel
					370-380		820.91-830.91	2	50	0.010	4" low-carbon steel
					430-440		760.91-770.91	3	25	0.010	4" low-carbon steel
					550-560		640.91-650.91	4	19	0.010	4" low-carbon steel
					675-685		515.91-525.91	5	16	0.010	4" low-carbon steel

**TABLE 3-1**  
**SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr, As, Pb, Major Cations (various)	Hexavalent Cr EPA 7196	Major Anions and TDS EPA 300.0/310.1	Perchlorate EPA 314.0 Modified	1,4-Dioxane EPA 8270	NDMA 1625 Modified
<b>MW-1</b>	MW-002-001	GW	X	X	X	X	X		
<b>MW-3</b>									
Screen 1	MW-002-002	GW	X	X	X	X	X		
Screen 2	MW-002-003	GW	X	X	X	X	X		
Screen 3	MW-002-004	GW	X	X	X	X	X		
Screen 4	MW-002-005	GW	X	X	X	X	X		
Screen 5	MW-002-006	GW	X	X	X	X	X		
<b>MW-4</b>									
Screen 1	MW-002-007	GW	X	X	X	X	X		
Screen 2	MW-002-008	GW	X	X	X	X	X		
Screen 2	MW-002-009	DUP	X	X (no cations)	X				
Screen 3	MW-002-010	GW	X	X	X	X	X		
Screen 4	MW-002-011	GW	X	X	X	X	X		
Screen 5	MW-002-012	GW	X	X	X	X	X		
<b>MW-5</b>	MW-002-013	GW	X	X	X	X	X		
<b>MW-6</b>	MW-002-014	GW	X	X	X	X	X		
<b>MW-7</b>	MW-002-015	GW	X	X	X	X	X	X	X
<b>MW-8</b>	MW-002-016	GW	X	X	X	X	X		
<b>MW-9</b>	MW-002-017	GW	X	X	X	X	X		
<b>MW-10</b>	MW-002-018	GW	X	X	X	X	X		
<b>MW-10</b>	MW-002-019	DUP	X	X (no cations)	X				
<b>MW-11</b>									
Screen 1	MW-002-020	GW	X	X	X	X	X		
Screen 2	MW-002-021	GW	X	X	X	X	X		
Screen 3	MW-002-022	GW	X	X	X	X	X		
Screen 4	MW-002-023	GW	X	X	X	X	X		
Screen 5	MW-002-024	GW	X	X	X	X	X		

**TABLE 3-1**  
**SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr, As, Pb, Major Cations (various)	Hexavalent Cr EPA 7196	Major Anions and TDS EPA 300.0/310.1	Perchlorate EPA 314.0 Modified	1,4-Dioxane EPA 8270	NDMA 1625 Modified
<b><i>MW-12</i></b>									
Screen 1	MW-002-025	GW	X	X	X	X	X		
Screen 2	MW-002-026	GW	X	X	X	X	X		
Screen 2	MW-002-027	DUP	X	X (no cations)	X			X	
Screen 3	MW-002-028	GW	X	X	X	X	X		
Screen 4	MW-002-029	GW	X	X	X	X	X		
Screen 5	MW-002-030	GW	X	X	X	X	X		
<b><i>MW-13</i></b>									
	MW-002-031	GW	X	X	X	X	X	X	X
<b><i>MW-13</i></b>									
	MW-002-032	DUP	X	X (no cations)	X		X		
<b><i>MW-14</i></b>									
Screen 1	MW-002-033	GW	X	X	X	X	X		
Screen 2	MW-002-034	GW	X	X	X	X	X		
Screen 3	MW-002-035	GW	X	X	X	X	X		
Screen 4	MW-002-036	GW	X	X	X	X	X		
Screen 5	MW-002-037	GW	X	X	X	X	X		
<b><i>MW-15</i></b>									
	MW-002-038	GW	X	X	X	X	X		
<b><i>MW-16</i></b>									
	MW-002-039	GW	X	X	X	X	X	X	X
<b><i>MW-17</i></b>									
Screen 1	MW-002-040	GW	X	X	X	X	X		
Screen 2	MW-002-041	GW	X	X	X	X	X		
Screen 3	MW-002-042	GW	X	X	X	X	X		
Screen 4	MW-002-043	GW	X	X	X	X	X		
Screen 5	MW-002-044	GW	X	X	X	X	X		
<b><i>MW-18</i></b>									
Screen 1	MW-002-045	GW	X	X	X	X	X		
Screen 2	MW-002-046	GW	X	X	X	X	X		
Screen 3	MW-002-047	GW	X	X	X	X	X		
Screen 4	MW-002-048	GW	X	X	X	X	X		
Screen 5	MW-002-049	GW	X	X	X	X	X		
<b><i>MW-19</i></b>									
Screen 1	MW-002-050	GW	X	X	X	X	X		
Screen 2	MW-002-051	GW	X	X	X	X	X		
Screen 3	MW-002-052	GW	X	X	X	X	X		

**TABLE 3-1**  
**SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr, As, Pb, Major Cations (various)	Hexavalent Cr EPA 7196	Major Anions and TDS EPA 300.0/310.1	Perchlorate EPA 314.0 Modified	1,4-Dioxane EPA 8270	NDMA 1625 Modified
Screen 4	MW-002-053	GW	X	X	X	X	X		
Screen 5	MW-002-054	GW	X	X	X	X	X		
<b><i>MW-20</i></b>									
Screen 1	MW-002-055	GW	X	X	X	X	X		
Screen 2	MW-002-056	GW	X	X	X	X	X		
Screen 3	MW-002-057	GW	X	X	X	X	X		
Screen 4	MW-002-058	GW	X	X	X	X	X		
Screen 5	MW-002-059	GW	X	X	X	X	X		
<b><i>MW-21</i></b>									
Screen 1	MW-002-060	GW	X	X	X	X	X		
Screen 2	MW-002-061	GW	X	X	X	X	X		
Screen 3	MW-002-062	GW	X	X	X	X	X		
Screen 4	MW-002-063	GW	X	X	X	X	X		
Screen 5	MW-002-064	GW	X	X	X	X	X		
<b><i>MW-22</i></b>									
Screen 1	MW-002-065	GW	X	X	X	X	X		
Screen 2	MW-002-066	GW	X	X	X	X	X		
Screen 3	MW-002-067	GW	X	X	X	X	X		
Screen 4	MW-002-068	GW	X	X	X	X	X		
Screen 5	MW-002-069	GW	X	X	X	X	X		
<b><i>MW-23</i></b>									
Screen 1	MW-002-070	GW	X	X	X	X	X		
Screen 2	MW-002-071	GW	X	X	X	X	X		
Screen 3	MW-002-072	GW	X	X	X	X	X		
Screen 4	MW-002-073	GW	X	X	X	X	X		
Screen 5	MW-002-074	GW	X	X	X	X	X		
<b><i>MW-24</i></b>									
Screen 1	MW-002-075	GW	X	X	X	X	X	X	X
Screen 2	MW-002-076	GW	X	X	X	X	X	X	
Screen 3	MW-002-077	GW	X	X	X	X	X	X	
Screen 4	MW-002-078	GW	X	X	X	X	X	X	
Screen 5	MW-002-079	GW	X	X	X	X	X	X	

GW: Groundwater Sample  
DUP: Duplicate Sample

**TABLE 3-2**  
**LOCATION OF WELL SCREENS IN AQUIFER LAYERS**

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
<b><i>MW-1</i></b>	X			
<b><i>MW-3</i></b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				X
<b><i>MW-4</i></b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				
<b><i>MW-5</i></b>	X			
<b><i>MW-6</i></b>	X			
<b><i>MW-7</i></b>	X			
<b><i>MW-8</i></b>	X			
<b><i>MW-9</i></b>	X			
<b><i>MW-10</i></b>	X			
<b><i>MW-11</i></b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				
<b><i>MW-12</i></b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				
<b><i>MW-13</i></b>	X			
<b><i>MW-14</i></b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				

**TABLE 3-2**  
**LOCATION OF WELL SCREENS IN AQUIFER LAYERS**

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
<b>MW-15</b>	X			
<b>MW-16</b>	X			
<b>MW-17</b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4				X
Screen 5				X
<b>MW-18</b>				
Screen 1	X			
Screen 2	X			
Screen 3		X		
Screen 4			X	
Screen 5				X
<b>MW-19</b>				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5				X
<b>MW-20</b>				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4			X	
Screen 5				X
<b>MW-21</b>				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5				X
<b>MW-22</b>				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5				X

**TABLE 3-2**  
**LOCATION OF WELL SCREENS IN AQUIFER LAYERS**

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
<b>MW-23</b>				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
<b>MW-24</b>				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	

TABLE 3-3

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
<b>MW-1</b>	MW-002-001	--	--	--	--	--	--	--	--	--	--
<b>MW-3</b>											
Screen 1	MW-002-002	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-003	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-002-004	<b>8.6</b>	1.4	--	--	--	--	0.7	37(EB) <sup>(2)</sup>	--	--
Screen 4	MW-002-005	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-006	--	--	--	--	--	--	--	--	0.7 Carbonyl Sulfide	--
<b>MW-4</b>											
Screen 1	MW-002-007	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-008	<b>1.6</b>	3.4	0.9	0.5	--	--	--	1.8(EB) <sup>(2)</sup>	--	31
Screen 2 (DUP)	MW-002-009	<b>1.7</b>	3.8	1.0	0.6	--	--	--	1.9(EB) <sup>(2)</sup>	--	32
Screen 3	MW-002-010	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-002-011	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-012	--	--	--	--	--	--	--	--	--	--
<b>MW-5</b>	MW-002-013	--	--	--	--	--	--	--	--	--	--
<b>MW-6</b>	MW-002-014	--	--	--	--	--	--	--	--	--	4.1
<b>MW-7</b>	MW-002-015	<b>50</b>	<b>14</b>	1.2	--	--	0.9	2.0	7.1(FB)	--	290
<b>MW-8</b>	MW-002-016	--	--	--	--	--	--	--	--	--	10
<b>MW-9</b>	MW-002-017	--	--	--	--	--	--	--	--	--	--
<b>MW-10</b>	MW-002-018	--	1.1	--	--	--	--	--	--	--	15
<b>MW-10 (DUP)</b>	MW-002-019	--	1.0	--	--	--	--	--	--	--	15
<b>MW-11</b>											
Screen 1	MW-002-020	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-021	<b>0.7</b>	--	--	--	--	--	--	0.5(EB) <sup>(2)</sup>	--	--
Screen 3	MW-002-022	<b>0.9</b>	--	--	--	--	--	--	0.6(EB) <sup>(2)</sup>	--	--

TABLE 3-3

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
<b>MW-11</b>											
Screen 1	MW-002-020	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-021	0.7	--	--	--	--	--	0.5(EB)(2)	--	--	--
Screen 3	MW-002-022	0.9	--	--	--	--	--	0.6(EB)(2)	--	--	--
Screen 4	MW-002-023	--	--	--	--	--	--	0.6(EB)(2)	--	--	--
Screen 5	MW-002-024	--	--	--	--	--	--	--	--	--	--
<b>MW-12</b>											
Screen 1	MW-002-025	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-026	--	--	--	--	--	--	--	--	--	--
Screen 2 (DUP)	MW-002-027	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-002-028	16	--	--	--	--	--	1.9(EB)(2)	--	6.9	--
Screen 4	MW-002-029	4.1	--	--	--	--	--	1.2(EB)(2)	--	8.1	--
Screen 5	MW-002-030	1.4	--	--	--	--	--	0.5(EB)(2)	--	4.0	--
<b>MW-13</b>	MW-002-031	8.6	20	--	--	0.6	0.7	--	8.8	--	410
<b>MW-13 (DUP)</b>	MW-002-032	8.8	20	--	--	0.5	0.7	--	8.5	--	420
<b>MW-14</b>											
Screen 1	MW-002-033	--	--	--	1.0	--	--	--	--	--	4.2
Screen 2	MW-002-034	--	1.7	0.8	--	--	--	0.5(EB)(2)	--	--	4.9
Screen 3	MW-002-035	--	0.7	--	--	--	--	0.5(EB)(2)	--	--	7.5
Screen 4	MW-002-036	--	--	--	--	--	--	--	--	--	4.2
Screen 5	MW-002-037	--	--	--	--	--	--	--	--	--	--
<b>MW-15</b>	MW-002-038	--	--	--	--	--	--	--	--	--	--
<b>MW-16</b>	MW-002-039	33	82	1.1	--	0.7	1.3	0.5	16	--	1500

TABLE 3-3

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
<b>MW-17</b>											
Screen 1	MW-002-040	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-041	--	--	--	--	--	--	--	1.1(EB)(2)	--	--
Screen 3	MW-002-042	--	1.6	--	--	--	--	--	2.8(EB)(2)	--	6.7
Screen 4	MW-002-043	--	<b>6.0</b>	--	--	--	--	--	1.4(EB)(2)	--	13
Screen 5	MW-002-044	--	<b>7.1</b>	0.6	--	--	--	--	1.5(EB)(2)	--	12
<b>MW-18</b>											
Screen 1	MW-002-045	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-046	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-002-047	--	0.6	--	--	--	--	--	2.6(EB)(2)	--	--
Screen 4	MW-002-048	<b>3.6</b>	1.1	2.0	--	--	--	--	0.9(EB)(2)	--	<b>24</b>
Screen 5	MW-002-049	--	--	--	--	--	--	--	--	--	--
<b>MW-19</b>											
Screen 1	MW-002-050	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-002-051	--	0.6	--	--	--	--	--	--	--	--
Screen 3	MW-002-052	--	0.7	1.8	--	--	--	--	--	--	5.0
Screen 4	MW-002-053	--	--	--	--	--	--	--	3.2(EB)(2)	--	--
Screen 5	MW-002-054	--	0.5	1.7	--	--	--	--	0.5(EB)(2)	--	4.2
<b>MW-20</b>											
Screen 1	MW-002-055	--	--	--	--	--	--	--	--	--	7.5
Screen 2	MW-002-056	--	--	--	--	--	--	--	4.1(EB)(2)	0.6 Bromodichloromethane	--
Screen 3	MW-002-057	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-002-058	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-059	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
<b>MW-21</b>											
Screen 1	MW-002-060	--	<b>12</b>	0.5	--	--	--	--	1.7(EB)(2)	--	16
Screen 2	MW-002-061	--	--	0.9	--	--	--	--	--	--	--
Screen 3	MW-002-062	--	0.6	<b>1.5</b>	--	--	--	--	0.7(EB)(2)	--	--
Screen 4	MW-002-063	--	0.5	<b>6.2</b>	--	--	--	--	0.7(EB)(2)	1.3 cis-1,2-Dichloroethene	--
Screen 5	MW-002-064	--	0.6	<b>11</b>	--	--	--	--	1.2(EB)(2)	2.2 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	--
<b>MW-22</b>											
Screen 1	MW-002-065	--	--	3.2	0.6	--	--	--	--	--	4.4
Screen 2	MW-002-066	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-002-067	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-002-068	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-069	--	--	--	--	--	--	--	--	--	--
<b>MW-23</b>											
Screen 1	MW-002-070	--	1.4	0.9	--	--	0.6	--	0.5(EB)(2)	--	4.9
Screen 2	MW-002-071	--	--	0.7	--	--	--	--	0.7(EB)(2)	--	6.6
Screen 3	MW-002-072	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-002-073	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-074	--	--	--	--	--	--	--	--	--	--
<b>MW-24</b>											
Screen 1	MW-002-075	<b>18</b>	<b>7.7</b>	0.9	--	--	--	--	4.5(EB)(2)	--	<b>440</b>
Screen 2	MW-002-076	<b>23 E</b>	3.3	0.8	--	--	1.2	--	7.7(EB)(2)	--	<b>530</b>
Screen 3	MW-002-077	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-002-078	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-002-079	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
Practical Quantitation Limit		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.0
California Maximum Contaminant Level		0.5	5.0	5.0	5.0	0.5	6.0	1,200	100	6 cis-1,2-Dichloroethene(a) 100 1,1,1-Trichloroethane(a)	18(1)
EPA Region IX Maximum Contaminant Level		5.0	5.0	5.0	NE	5.0	7.0	NE	100	70 cis-1,2-Dichloroethene(a) 200 1,1,1-Trichloroethane(a)	NE

--: Not detected.

DUP: Duplicate.

NE: Not established.

1: California Department of Health Services Interim Action Level.

2: All the equipment blanks for the round had chloroform concentrations ranging from 1.9 to 3.4  $\mu\text{g/L}$ .

The ASTM Type II water used for the equipment blanks is the probable source of the chloroform.

a: Only VOCs for which MCLs have been established are listed.

E: Estimated concentration; result exceeded calibration range.

EB: Compound detected in associated equipment blank.

FB: Compound detected in associated field blank.

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
<i>MW-1</i>	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.9 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.9 Acetone	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	1.3 m,p-Xylenes	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<i>MW-3</i>	Screen 1	Aug/Sep 1996	--	--	--	--	--	--	1.2	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	8.3	0.7(B) Naphthalene	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	2.6 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<i>Screen 2</i>	Aug/Sep 1996	--	--	--	--	--	--	--	5.5	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	4.8	1.9(B) Naphthalene	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	4.4	8.0 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	1.0	1.2	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	0.8	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	<b>0.6</b>	0.8	--	--	--	--	--	1.6	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.7	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	0.8	--	(1)
	Jun/Jul 1997	<b>1.2</b>	0.8	0.6	--	--	--	2.8	1.8	--	<b>21</b>
	Sep/Oct 1997	<b>1.2</b>	0.5	--	--	--	--	--	1.6	--	13
	Jan/Feb 1998	<b>1.2</b>	--	--	--	--	--	--	2.7	--	6.5
	Apr/May 1998	<b>3.6</b>	0.9	--	--	--	--	--	3.9	--	6.2
	Jul/Aug 1998	<b>2.4</b>	0.6	--	--	--	--	--	3.6	--	10
	Oct/Nov 1998	<b>5.8</b>	0.7	--	--	--	--	--	21	2.7 Carbon Disulfide	--
	Feb/Mar 1999	<b>4.5</b>	1.3	--	--	--	--	0.9	42	--	--
	May/Jun 1999	<b>42</b>	1.3	--	--	--	--	1.0	26(EB)	--	8.9
	Aug 1999	<b>15</b>	1.0	--	--	--	--	0.8	37	--	--
	Nov/Dec 1999	<b>26</b>	1.3	--	--	--	--	0.9	43(EB)	--	5.2
	Mar/Apr 2000	<b>42</b>	1.9	--	--	--	--	1.1	32(EB)	--	19.4
	Jul/Aug 2000	<b>8.6</b>	1.4	--	--	--	--	0.7	37(EB)	--	--
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.2 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.0 Hexane	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	4.7 Carbon Disulfide <sup>(3)</sup>	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	4.1 Carbonyl Sulfide	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
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JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.1 Dichloromethane	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	2.1 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.2 Carbon Disulfide	
	Jun/Jul 1997	--	--	--	--	--	--	--	--	1.5 Carbon Disulfide	(1)
	Sep/Oct 1997	--	--	--	--	--	--	--	--	2.7 Sulfur Dioxide	
	Jan/Feb 1998	--	--	--	--	--	--	--	--	1.3 Unknown (RT=2.51)	
	Apr/May 1998	--	--	--	--	--	--	--	--	4.5 Carbon Disulfide	
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	91
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	75
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	140
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.2 Carbonyl Sulfide	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	0.7 Carbonyl Sulfide	--
<b>MW-4</b>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	7.4
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	9.6
	Apr/May 1998	--	--	--	--	--	--	--	--	--	
	Jul/Aug 1998	--	--	--	--	--	--	--	--	3.4 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	
	Feb/Mar 1999	--	--	--	--	--	--	0.8(B)	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	
	Aug 1999	--	--	--	--	--	--	--	--	--	
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	
Screen 2	Aug/Sep 1996	<b>5.5</b>	<b>19</b>	--	--	<b>0.9</b>	0.7	--	6.7	3.2(B) Acetone	(1)
	Oct/Nov 1996	<b>5.3</b>	<b>15</b>	--	--	<b>0.6</b>	0.8	--	5.4	1.8 Acetone	(1)
	Feb/Mar 1997	<b>7.9</b>	<b>19</b>	--	--	<b>0.8</b>	0.8	--	7.8	--	(1)
	Jun/Jul 1997	<b>4.0</b>	<b>5.7</b>	--	--	--	0.5	--	3.4	--	51

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Sep/Oct 1997	<b>4.0</b>	<b>8.0</b>	0.5	0.6	--	0.5	--	3.5	--	34
	Jan/Feb 1998	<b>1.9</b>	2.7	0.6	--	--	--	--	1.8	--	30
	Apr/May 1998	<b>2.8</b>	4.3	0.7	0.5	--	--	--	3.1	--	41
	Jul/Aug 1998	<b>1.5</b>	3.0	0.8	0.5	--	--	--	2.0	--	29
	Oct/Nov 1998	<b>0.9</b>	2.4	0.7	--	--	--	--	1.6	--	25
	Feb/Mar 1999	<b>1.2</b>	4.1	0.6	0.5 <sup>(5)</sup>	--	--	--	2.5	--	38
	May/Jun 1999	<b>2.0</b>	<b>6.4</b>	0.7	--	--	--	--	3.7(EB)	--	56
	Aug 1999	<b>1.9</b>	<b>5.5</b>	0.5	--	--	--	--	3.3	--	69
	Nov/Dec 1999	<b>2.3</b>	<b>6.2</b>	0.7	--	--	--	--	3.1(EB)	--	42
	Mar/Apr 2000	<b>1.4</b>	3.9	0.7	--	--	--	--	1.7(EB)	--	33
	Jul/Aug 2000	<b>1.7</b>	3.8	1.0	0.6	--	--	--	1.9(EB)	--	32
Screen 3	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.5 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.0 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.6 Unknown (RT=4.79)	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.6 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.6 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Oct/Nov 1996	--	--	--	--	--	--	--	1.9 Acetone	(1)	
	Aug/Sep 1996	--	--	--	--	--	--	--	--	(1)	
	Feb/Mar 1997	--	--	--	--	--	--	--	--	(1)	
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	
	Jan/Feb 1998	--	--	--	--	--	--	--	7.4 Hexane	--	
	Apr/May 1998	--	--	--	--	--	--	--	--	--	
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	
	Feb/Mar 1999	--	--	--	--	--	0.6 <sup>(4)</sup>	--	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
MW-5	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	4.2
	Apr/May 1998	--	--	--	--	--	--	--	--	--	
	Jul/Aug 1998	--	--	--	--	--	--	--	6.5 Dichloromethane <sup>(4)</sup>	--	
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	
	Aug 1999	--	--	--	--	--	--	--	--	--	
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
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(concentrations in  $\mu\text{g/L}$ )

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
<b>MW-6</b>	Aug/Sep 1996	--	--	--	--	--	--	--	1.3(TB)	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	0.8	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	5.5
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	2.0	1.0	--	--	--	--	--	--
	Apr/May 1998	--	0.7	3.2	1.1	--	--	--	0.6	--	--
	Jul/Aug 1998	--	0.6	2.5	0.8	--	--	--	--	7.6 Dichloromethane <sup>(4)</sup>	4.2
	Oct/Nov 1998	--	--	0.7	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.8	3.8	1.0	--	--	--	0.6	--	--
	May/Jun 1999	--	--	1.5	--	--	--	--	--	--	--
	Aug 1999	--	--	0.5	--	--	--	--	--	--	4.0
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	3.0	0.8	--	--	--	--	--	4.8
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	4.1
<b>MW-7</b>	Aug/Sep 1996	90	39	0.8	--	1.2	1.1	7.2	13(TB)	--	(1)
	Oct/Nov 1996	170	27	1.3	--	0.8	2.3	7.7	14	4.3(B) 1,1-Difluoroethane 2.8(B) Acetone	(1)
	Feb/Mar 1997	45	27	0.6	--	0.8	0.9	5.1	9.9	--	(1)
	Jun/Jul 1997	39	23	0.7	--	0.8	1.0	4.1	11	10 Unknown	285
	Sep/Oct 1997	93	22	1.1	--	0.9	1.3	4.7	13	--	550
	Jan/Feb 1998	150	24	3.7	--	0.8	2.1	6.4	13	--	720
	Apr/May 1998	31	13	0.5	--	--	--	3.1	6.1	--	130
	Jul/Aug 1998	43	19	0.8	--	0.6	0.9	3.4	9.0	1.0 Dichloromethane <sup>(4)</sup>	190
	Oct/Nov 1998	51	18	0.9	--	0.7	1.1	3.0	9.8	3.4 Carbon Disulfide	210
	Feb/Mar 1999	49	17	0.6	--	--	0.9	2.0	7.2	--	150
	May/Jun 1999	42	14	--	--	--	--	2.2	5.7(FB)	--	120
	Aug 1999	40	16	0.5	--	--	0.8	1.9	7.8(FB)	--	210
	Nov/Dec 1999	120	19.7	3.0	--	0.7	2.2	2.4	10.8(FB)	--	460
	Mar/Apr 2000	110	18	2.7	--	0.5	2.3	2.6	8.9(FB)	--	740
	Jul/Aug 2000	50	14	1.2	--	--	0.9	2.0	7.1(FB)	--	290
<b>MW-8</b>	Aug/Sep 1996	4.0	4.6	--	--	--	--	--	1.3	--	(1)
	Oct/Nov 1996	2.8	2.2	--	--	--	--	0.6	0.6	1.7 Acetone	(1)
	Feb/Mar 1997	1.5	4.5	--	--	--	--	--	1.3	1.1 Freon 11 1.9 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	6.4
	Sep/Oct 1997	3.2	3.6	--	--	--	--	--	1.2	1.0 Freon 11	29
	Jan/Feb 1998	1.8	1.3	--	--	--	--	--	0.8	0.8 Freon 11	11

TABLE 3-4

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	<b>1.3</b>	1.3	--	--	--	--	--	0.5	--	7.6
	Jul/Aug 1998	--	--	--	--	--	--	--	--	6.6 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	<b>0.9</b>	0.8	--	--	--	--	--	--	--	5.2
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	10
<i>MW-9</i>	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	3.9 Unknown RT=6.21	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<i>MW-10</i>	Aug/Sep 1996	<b>0.7</b>	<b>18</b>	0.5	--	--	--	1.2	1.4(TB)	--	(1)
	Oct/Nov 1996	<b>0.6</b>	<b>6.6</b>	1.0	1.9	--	--	0.8	1.1	3.0(B) Acetone	(1)
	Feb/Mar 1997	--	<b>5.2</b>	--	--	--	--	--	0.6	--	(1)
	Jun/Jul 1997	--	2.2	--	--	--	--	--	--	--	11
	Sep/Oct 1997	--	4.3	1.3	1.2	--	--	--	1.0	--	16
	Jan/Feb 1998	--	1.1	2.2	1.6	--	--	--	1.4	--	4.7
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	8.2 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	<b>5.7</b>	--	--	--	--	--	0.9	--	39
	May/Jun 1999	--	1.1	--	--	--	--	--	--	--	10
	Aug 1999	--	2.2	--	--	--	--	--	--	--	21
	Nov/Dec 1999	--	3.7	1.1	0.6	--	--	--	0.9	--	21

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Mar/Apr 2000	--	2.0	2.2	1.1	--	--	--	0.9	--	9.1
	Jul/Aug 2000	--	1.1	--	--	--	--	--	--	--	15
<b>MW-11</b>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.6(B) Acetone 7.1 MTBE 1.8 Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	<b>1.4</b>	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	<b>1.5</b>	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	<b>1.4</b>	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.9 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	<b>2.4</b>	--	--	--	--	--	--	1.0	--	(1)
	Oct/Nov 1996	<b>1.1</b>	--	--	--	--	--	--	1.2	--	(1)
	Feb/Mar 1997	<b>1.7</b>	--	--	--	--	--	--	1.0	--	(1)
	Jun/Jul 1997	<b>1.2</b>	--	--	--	--	--	--	1.0	--	--
	Sep/Oct 1997	<b>0.6</b>	--	--	--	--	--	--	0.6	--	--
	Jan/Feb 1998	<b>0.7</b>	--	--	--	--	--	--	0.7	--	--
	Apr/May 1998	<b>1.0</b>	--	--	--	--	--	--	0.7	--	--
	Jul/Aug 1998	<b>0.9</b>	--	--	--	--	--	--	0.6	--	--
	Oct/Nov 1998	<b>0.6</b>	--	--	--	--	--	--	0.7	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7 <sup>(4)</sup>	1.1	--	--
	May/Jun 1999	<b>0.5</b>	--	--	--	--	--	--	0.7(EB)	--	--
	Aug 1999	<b>0.5</b>	--	--	--	--	--	--	0.6	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	<b>0.8</b>	--	--	--	--	--	--	0.7(EB)	--	--
	Jul/Aug 2000	<b>0.7</b>	--	--	--	--	--	--	0.5(EB)	--	--
Screen 3	Aug/Sep 1996	<b>0.9</b>	--	--	--	--	--	--	1.3	2.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	1.4	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.1	--	(1)
	Jun/Jul 1997	<b>0.7</b>	--	--	--	--	--	--	1.4	--	--

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	Sep/Oct 1997	<b>0.6</b>	--	--	--	--	--	--	1.3	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	1.4	--	--
	Apr/May 1998	<b>1.0</b>	--	--	--	--	--	--	1.3	--	--
	Jul/Aug 1998	<b>1.5</b>	--	--	--	--	--	--	1.4	--	--
	Oct/Nov 1998	<b>1.3</b>	--	--	--	--	--	--	1.1	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	<b>0.7</b>	--	--	--	--	--	--	0.7	--	--
	Nov/Dec 1999	<b>0.9</b>	--	--	--	--	--	--	0.7(EB)	--	--
	Mar/Apr 2000	<b>2.4</b>	--	--	--	--	--	--	1.0(EB)	--	--
	Jul/Aug 2000	<b>0.9</b>	--	--	--	--	--	--	0.6(EB)	--	--
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	0.5	2.4(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.5 2-Methyl-1-Propene	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	0.5	--	--
	Apr/May 1998	--	--	--	--	--	--	--	0.5	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	0.5	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	0.6	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	0.5	--	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	0.6(EB)	--	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	0.6(EB)	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.4(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.1 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	44 Carbon Disulfide <sup>(3)</sup>	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<b>MW-12</b>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	4.1	--	(1)
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	--	--	--	5.8	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.5	--	--
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	--	--	--	--	--	--	0.8	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	<b>0.9</b>	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	<b>1.5</b>	0.6	--	--	--	--	0.5	--	--	(1)
	Feb/Mar 1997	<b>1.1</b>	0.5	--	--	--	--	--	--	1.1(B) Acetone	(1)
	Jun/Jul 1997	<b>1.0</b>	--	--	--	--	--	--	0.8	--	6.9
	Sep/Oct 1997	<b>0.8</b>	--	--	--	--	--	--	0.8	--	5.8
	Jan/Feb 1998	<b>1.1</b>	--	--	--	--	--	--	0.6	--	6.3
	Apr/May 1998	<b>1.2</b>	--	--	--	--	--	--	0.9	--	6.0
	Jul/Aug 1998	<b>1.4</b>	--	--	--	--	--	--	0.9	--	5.1
	Oct/Nov 1998	<b>1.3</b>	--	--	--	--	--	--	1.0	--	4.2
	Feb/Mar 1999	<b>1.3</b>	--	--	--	--	--	--	0.9	--	4.1
	May/Jun 1999	<b>0.8</b>	--	--	--	--	--	0.6(EB)	0.8 Dichloromethane(EB)	5.0	--
	Aug 1999	<b>0.5</b>	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	<b>0.5</b>	--	--	--	--	--	--	0.5 Unknown (RT=4.79)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 3	Aug/Sep 1996	<b>4.5</b>	--	--	--	--	--	--	1.3	--	(1)
	Oct/Nov 1996	<b>3.8</b>	--	--	--	--	--	--	1.3	1.6 Acetone	(1)
	Feb/Mar 1997	<b>6.4</b>	--	--	--	--	--	--	1.4	1.3(B) Acetone	(1)
	Jun/Jul 1997	<b>20</b>	--	--	--	--	--	--	1.6	--	5.7
	Sep/Oct 1997	<b>14</b>	--	--	--	--	--	--	1.7	--	6.2
	Jan/Feb 1998	<b>23 E</b>	--	--	--	--	--	--	2.3	--	5.9
	Apr/May 1998	<b>25</b>	--	--	--	--	--	--	2.0	--	6.9
	Jul/Aug 1998	<b>35</b>	--	--	--	--	--	--	2.2	--	6.6
	Oct/Nov 1998	<b>27</b>	--	--	--	--	--	--	2.2	--	6.9
	Feb/Mar 1999	<b>23</b>	--	--	--	--	--	--	--	--	--
	May/Jun 1999	<b>19</b>	--	--	--	--	--	--	2.0(EB)	--	8.7
	Aug 1999	<b>19</b>	--	--	--	--	--	--	2.3	--	--
	Nov/Dec 1999	<b>23</b>	--	--	--	--	--	--	2.4(EB)	0.5 Unknown	8.5
	Mar/Apr 2000	<b>17</b>	--	--	--	--	--	--	1.9(EB)	--	8.2
	Jul/Aug 2000	<b>16</b>	--	--	--	--	--	--	1.9(EB)	--	6.9
Screen 4	Aug/Sep 1996	<b>6.3</b>	--	--	--	--	--	--	1.4	--	(1)
	Oct/Nov 1996	<b>5.1</b>	--	--	--	--	--	--	1.4	2.5 Acetone	(1)
	Feb/Mar 1997	<b>4.9</b>	--	--	--	--	--	--	1.3	--	(1)
	Jun/Jul 1997	<b>4.9</b>	--	--	--	--	--	--	1.3	--	7.3
	Sep/Oct 1997	<b>3.8</b>	--	--	--	--	--	--	1.0	--	7.6
	Jan/Feb 1998	<b>4.0</b>	--	--	--	--	--	--	1.1	--	8.0
	Apr/May 1998	<b>4.3</b>	--	--	--	--	--	--	1.2	--	8.0
	Jul/Aug 1998	<b>5.1</b>	--	--	--	--	--	--	1.2	--	6.0
	Oct/Nov 1998	<b>4.1</b>	--	--	--	--	--	--	1.2	--	7.7
	Feb/Mar 1999	<b>4.5</b>	--	--	--	--	--	--	1.2	--	7.0
	May/Jun 1999	<b>4.0</b>	--	--	--	--	--	--	1.0(EB) <sup>(3)</sup>	--	9.1
	Aug 1999	<b>3.7</b>	--	--	--	--	--	--	1.1	--	9.2
	Nov/Dec 1999	<b>3.9</b>	--	--	--	--	--	--	1.3(EB)	0.5 Unknown (RT=4.8)	8.5
	Mar/Apr 2000	<b>5.3</b>	0.5	--	--	--	--	--	1.3(EB)	--	8.7
	Jul/Aug 2000	<b>4.1</b>	--	--	--	--	--	--	1.2(EB)	--	8.1
Screen 5	Aug/Sep 1996	<b>3.4</b>	--	--	--	--	--	--	0.7	--	(1)
	Oct/Nov 1996	<b>1.3</b>	--	--	--	--	--	--	--	1.5 Acetone	(1)
	Feb/Mar 1997	<b>1.7</b>	--	--	--	--	--	--	0.5	--	(1)
	Jun/Jul 1997	<b>1.9</b>	--	--	--	--	--	--	0.5	--	4.1
	Sep/Oct 1997	<b>1.3</b>	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	<b>1.3</b>	--	--	--	--	--	--	--	--	--
	Apr/May 1998	<b>1.7</b>	--	--	--	--	--	--	0.6	--	--
	Jul/Aug 1998	<b>2.1</b>	--	--	--	--	--	--	0.6	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
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JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Oct/Nov 1998	<b>2.0</b>	--	--	--	--	--	--	0.6	--	--
	Feb/Mar 1999	<b>1.3</b>	--	--	--	--	--	--	0.7	--	--
	May/Jun 1999	<b>1.6</b>	--	--	--	--	--	--	0.5(EB)	--	--
	Aug 1999	<b>1.9</b>	--	--	--	--	--	--	0.6	--	--
	Nov/Dec 1999	<b>1.4</b>	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	<b>2.0</b>	--	--	--	--	--	--	0.6(EB)	--	4.7
	Jul/Aug 2000	<b>1.4</b>	--	--	--	--	--	--	0.5(EB)	--	4.0
<i>MW-13</i>	Aug/Sep 1996	<b>21</b>	<b>47</b>	0.6	--	<b>2.5</b>	1.5	0.7	21(TB)	--	(1)
	Oct/Nov 1996	<b>27</b>	<b>27</b>	--	--	<b>1.9</b>	1.5	0.6	14	--	(1)
	Feb/Mar 1997	<b>18</b>	<b>28</b>	--	--	<b>0.9</b>	1.1	0.6	9.2	--	(1)
	Jun/Jul 1997	<b>6.4</b>	<b>24 E</b>	--	--	<b>0.9</b>	0.5	--	11	--	130
	Sep/Oct 1997	<b>8.2</b>	<b>19</b>	--	--	<b>1.1</b>	0.5	--	10	--	210
	Jan/Feb 1998	<b>12</b>	<b>5.2</b>	0.5	--	--	0.5 <sup>(5)</sup>	--	2.9	1.8 Freon 11	99
	Apr/May 1998	<b>13</b>	<b>17</b>	0.6	--	--	0.9	0.6	5.7	--	100
	Jul/Aug 1998	<b>15</b>	<b>29</b>	0.6	--	--	1.2	0.7	7.7	1.0 Dichloromethane <sup>(4)</sup> 0.5 1,1-Trichloroethane	59
	Oct/Nov 1998	<b>9.0</b>	<b>20</b>	--	--	--	1.1	0.5	9.3	--	86
	Feb/Mar 1999	<b>9.4</b>	<b>28</b>	--	--	<b>0.7</b>	0.7	11	--	--	98
<i>MW-14</i>	May/Jun 1999	<b>9.8</b>	<b>40</b>	0.6	--	<b>0.5</b>	0.8	1.0	9.4	--	120
	Aug 1999	<b>11</b>	<b>29</b>	--	--	<b>0.7</b>	0.9	--	12	--	150
	Nov/Dec 1999	<b>10.7</b>	<b>20</b>	--	--	<b>0.5</b>	0.7	--	9.2	--	590
	Mar/Apr 2000	<b>8.9</b>	<b>11</b>	0.7	0.7	--	0.6	--	5.2	--	330
	Jul/Aug 2000	<b>8.8</b>	<b>20</b>	--	--	<b>0.6</b>	0.7	--	8.8	--	420
	Screen 1	--	--	--	2.4	--	--	--	0.6	--	(1)
	Aug/Sep 1996	--	--	--	2.9	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	1.5	--	--	--	0.7	--	(1)
	Feb/Mar 1997	--	--	0.7	2.0	--	--	--	--	--	--
	Jun/Jul 1997	--	--	--	2.1	--	--	--	0.5	--	--
	Sep/Oct 1997	--	--	--	1.9	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	1.2	0.8	--	--	0.8	--	4.4
	Apr/May 1998	--	--	--	0.8	1.7	--	--	0.6	--	4.4
	Jul/Aug 1998	--	--	0.5	2.4	--	--	--	0.6	--	4.2
	Oct/Nov 1998	--	--	0.8	1.2	--	--	0.6 <sup>(4)</sup>	0.6	--	4.2
	Feb/Mar 1999	--	--	0.5	2.6	--	--	--	--	--	--
	May/Jun 1999	--	--	--	1.7	--	--	--	--	--	--
	Aug 1999	--	--	--	1.7	--	--	--	--	--	--
	Nov/Dec 1999	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)

TABLE 3-4

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 2	Mar/Apr 2000	--	--	0.8	0.8	--	--	--	0.5(EB)	--	5.3
	Jul/Aug 2000	--	--	1.0	--	--	--	--	--	--	4.2
	Aug/Sep 1996	--	2.8	1.6	1.4	--	--	--	1.5	--	(1)
	Oct/Nov 1996	--	1.5	1.6	1.0	--	--	--	0.9	0.6 1,2,3-Trichlorobenzene 1.1 Acetone	(1)
	Feb/Mar 1997	--	0.9	1.9	1.3	--	--	--	0.8	0.8 1,2,3-Trichlorobenzene 1.1 Acetone	(1)
	Jun/Jul 1997	--	1.1	1.7	1.5	--	--	--	0.9	0.5 1,2,3-Trichlorobenzene	--
	Sep/Oct 1997	--	1.2	1.9	1.6	--	--	--	0.8	--	--
	Jan/Feb 1998	--	--	1.2	0.7	--	--	--	--	8.9 Carbon Disulfide <sup>(3)</sup>	9.0
	Apr/May 1998	--	--	1.2	0.7	--	--	--	0.6	--	4.0
	Jul/Aug 1998	--	0.9	1.8	0.8	--	--	--	0.6	--	4.9
	Oct/Nov 1998	--	0.6	1.5	0.7	--	--	--	0.5	--	4.2
	Feb/Mar 1999	--	0.9	1.6	0.7	--	--	0.6 <sup>(4)</sup>	0.6	--	4.2
	May/Jun 1999	--	1.0	1.2	0.8	--	--	--	0.6(EB)	--	9.6
	Aug 1999	--	--	1.0	--	--	--	--	--	--	--
Screen 3	Nov/Dec 1999	--	1.0	0.8	--	--	--	--	--	--	5.2
	Mar/Apr 2000	--	2.5	0.7	--	--	--	--	0.6(EB)	--	6.0
	Jul/Aug 2000	--	1.7	0.8	--	--	--	--	0.5(EB)	--	4.9
	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	4.3
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	5.6
	Apr/May 1998	--	--	--	--	--	--	--	--	--	5.8
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	5.9
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	6.7
	Feb/Mar 1999	--	--	0.5	--	--	--	0.6 <sup>(4)</sup>	0.5	--	5.9
	May/Jun 1999	--	--	--	--	--	--	--	--	--	7.0
Screen 4	Aug 1999	--	--	--	--	--	--	--	--	--	6.6
	Nov/Dec 1999	--	0.5	--	--	--	--	--	0.5(EB)	--	6.8
	Mar/Apr 2000	--	0.8	0.5	--	--	--	--	0.6(EB)	--	7.9
	Jul/Aug 2000	--	0.7	--	--	--	--	--	0.5(EB)	--	7.5
	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
Screen 5	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.6 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	9.9
	Aug 1999	--	--	--	--	--	--	--	--	--	4.0
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	4.1
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	4.2
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	2.1(B) Acetone	(1)	
	Oct/Nov 1996	--	--	--	--	--	--	--	1.6(TB) Acetone	(1)	
									1.3 Carbon Disulfide	(1)	
	Feb/Mar 1997	--	--	--	--	--	--	--	--	(1)	
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	
	Jan/Feb 1998	--	--	--	--	--	--	--	4.6 Carbon Disulfide <sup>(3)</sup>	--	
	Apr/May 1998	--	--	--	--	--	--	--	--	--	
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	
	Aug 1999	--	--	--	--	--	--	--	--	--	
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	
MW-15	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	2.6 Acetone	(1)	
	Feb/Mar 1997	--	--	--	--	--	--	--	--	(1)	
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	
	Apr/May 1998	--	--	--	--	--	--	--	--	--	
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	
	May/Jun 1999	--	--	--	--	--	--	--	--	--	

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**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
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(concentrations in  $\mu\text{g/L}$ )

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<b>MW-16</b>	Aug/Sep 1996	<b>125</b>	<b>33</b>	1.3	--	<b>2.4</b>	2.2	2.0	40(TB)	--	(1)
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	<b>91</b>	<b>23</b>	1.3	--	<b>1.7</b>	2.6	1.6	29	--	(1)
	Jun/Jul 1997	<b>68</b>	<b>25</b>	1.1	--	<b>2.1</b>	1.7	0.6	43	--	615
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	<b>30</b>	<b>3.5</b>	1.0	--	--	1.3	--	14	--	1230
	Apr/May 1998	<b>42</b>	<b>12</b>	0.8	--	<b>1.4</b>	1.6	1.2	20	--	640
	Jul/Aug 1998	<b>58</b>	<b>19</b>	1.3	--	<b>0.8</b>	2.7	1.2	23	0.6 Dichloromethane <sup>(4)</sup> 1.0 1,1,1-Trichloroethane 1.1 1,1,1-Trichloroethane 13 Carbon Disulfide	420
	Oct/Nov 1998	<b>51</b>	<b>18</b>	1.0	--	<b>1.5</b>	1.6	1.4	29	--	220
	Feb/Mar 1999	<b>67</b>	<b>20</b>	1.4	--	<b>1.1</b>	1.8	1.1	24	--	790
	May/Jun 1999	<b>58</b>	<b>15</b>	1.0	--	<b>0.8</b>	1.3	1.2	23	0.5 Fluorotrichloromethane	650
	Aug 1999	<b>70</b>	<b>19</b>	1.8	--	<b>1.1</b>	1.9	1.1	26(EB)	0.6 1,1,1-Trichloroethane	930
	Nov/Dec 1999	<b>80</b>	<b>10</b>	3.0	--	<b>0.7</b>	5.3	0.7	24	--	770
	Mar/Apr 2000	<b>24</b>	<b>4.3</b>	0.9	--	--	4.0	--	17	--	1900
	Jul/Aug 2000	<b>33</b>	<b>8.2</b>	1.1	--	<b>0.7</b>	1.3	0.5	16	--	1500
<b>MW-17</b>	Screen 1	--	--	--	--	--	--	--	--	4.3(B) Acetone 1.4 Acetone	(1)
	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	2.9	--	--
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	3.8	4.5(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	6.0	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	5.2	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	4.1	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	6.1	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	5.4	--	--
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	2.4	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	3.7	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.0 <sup>(4)</sup>	3.9	--	--
	May/Jun 1999	--	--	--	--	--	--	--	3.2(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	2.5	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	1.4(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	1.9(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	1.1(EB)	--	--
Screen 3	Aug/Sep 1996	2.0	7.9	--	--	--	--	--	7.5	--	(1)
	Oct/Nov 1996	3.3	18	0.8	--	--	--	--	8.7	--	(1)
	Feb/Mar 1997	5.1	23	1.1	--	--	--	--	6.2	--	(1)
	Jun/Jul 1997	1.3	5.9	--	--	--	--	--	8.2	--	12
	Sep/Oct 1997	6.6	22	1.4	--	--	--	--	9.2	--	55
	Jan/Feb 1998	3.3	8.7	--	--	--	--	--	6.8	--	25
	Apr/May 1998	--	0.9	--	--	--	--	--	5.3	--	--
	Jul/Aug 1998	--	1.0	--	--	--	--	--	4.9	--	--
	Oct/Nov 1998	--	1.9	--	--	--	--	--	4.1	--	5.1
	Feb/Mar 1999	--	1.6	--	--	--	--	--	3.8	--	4.2
	May/Jun 1999	--	1.5	--	--	--	--	--	3.5(EB)	--	--
	Aug 1999	0.8	2.9	--	--	--	--	--	4.6	--	6.1
	Nov/Dec 1999	0.7	3.2	--	--	--	--	--	4.4(EB)	--	5.5
	Mar/Apr 2000	--	1.9	--	--	--	--	--	2.6(EB)	--	5.0
	Jul/Aug 2000	--	1.6	--	--	--	--	--	2.8(EB)	--	6.7
Screen 4	Aug/Sep 1996	--	9.5	0.5	--	--	--	--	1.1	--	(1)
	Oct/Nov 1996	--	8.9	--	--	--	--	--	1.5	--	(1)
	Feb/Mar 1997	--	5.8	--	--	--	--	--	0.7	--	(1)
	Jun/Jul 1997	--	4.5	--	--	--	--	--	0.6	--	13
	Sep/Oct 1997	--	6.8	0.5	--	--	--	--	1.0	--	16
	Jan/Feb 1998	--	7.3	0.6	--	--	--	--	1.2	--	16
	Apr/May 1998	--	7.6	0.6	--	--	--	--	1.5	--	17
	Jul/Aug 1998	--	8.9	0.6	--	--	--	--	1.9	--	14

**TABLE 3-4**  
**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
 DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
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(concentrations in µg/L)  
 Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Oct/Nov 1998	--	<b>6.2</b>	0.5	--	--	--	--	1.9	--	12
	Feb/Mar 1999	--	3.8	--	--	--	--	1.0 <sup>(4)</sup>	1.8	--	9.8
	May/Jun 1999	--	3.2	--	--	--	--	--	1.4(EB)	--	14
	Aug 1999	--	3.5	--	--	--	--	--	1.5	--	12
	Nov/Dec 1999	--	<b>6.8</b>	--	--	--	--	--	2.0(EB)	--	10
	Mar/Apr 2000	--	<b>9.9</b>	0.6	--	--	--	--	1.8(EB)	--	15
	Jul/Aug 2000	--	<b>6.0</b>	--	--	--	--	--	1.4(EB)	--	13
Screen 5	Aug/Sep 1996	--	<b>13</b>	0.6	--	--	--	--	1.7	3.4(B) Acetone	(1)
	Oct/Nov 1996	--	<b>16</b>	0.7	--	--	--	--	1.7	--	(1)
	Feb/Mar 1997	--	<b>14</b>	0.7	--	--	--	--	1.3	--	(1)
	Jun/Jul 1997	--	<b>11</b>	0.7	--	--	--	--	1.3	--	12
	Sep/Oct 1997	--	<b>8.6</b>	0.6	--	--	--	--	1.4	--	15
	Jan/Feb 1998	--	<b>7.9</b>	--	--	--	--	--	1.5	--	15
	Apr/May 1998	--	<b>8.8</b>	0.6	--	--	--	--	1.8	--	15
	Jul/Aug 1998	--	<b>8.9</b>	0.6	--	--	--	--	2.0	--	13
	Oct/Nov 1998	--	<b>11</b>	0.8	--	--	--	--	2.7	--	12
	Feb/Mar 1999	--	4.9	--	--	--	--	--	2.1	--	6.4
	May/Jun 1999	--	<b>6.6</b>	0.6	--	--	--	--	2.0(EB)	--	12
	Aug 1999	--	4.0	--	--	--	--	--	1.6	--	11
	Nov/Dec 1999	--	<b>6.7</b>	--	--	--	--	--	2.1(EB)	--	9.1
	Mar/Apr 2000	--	<b>8.8</b>	--	--	--	--	--	1.8(EB)	--	15
	Jul/Aug 2000	--	<b>7.1</b>	0.6	--	--	--	--	1.5(EB)	--	12
<b>MW-18</b>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	1.6	--	(1)
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	--	--	--	3.0	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.8	--	--
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Apr/May 1998	--	--	--	--	--	--	--	0.7	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	3.4 Unknown Hydrocarbon (RT=7.14)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
MW-18	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)

TABLE 3-4

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JET PROPULSION LABORATORY**

(concentrations in  $\mu\text{g/L}$ )

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	7.3	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	8.2	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.9	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	4.5	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	2.5	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	3.7	--	--
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	0.9	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	3.0	0.8 Bromodichloromethane	--
	May/Jun 1999	--	--	--	--	--	--	--	0.8(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	2.5(EB)	0.9 Bromodichloromethane	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	0.7	4.7	2.8	--	--	--	--	5.1	--	(1)
	Oct/Nov 1996	0.7	6.4	3.2	--	--	--	--	5.6	--	(1)
	Feb/Mar 1997	0.8	6.6	2.9	--	--	--	--	5.1	--	(1)
	Jun/Jul 1997	0.6	2.4	1.8	--	--	--	--	4.4	--	--
	Sep/Oct 1997	--	3.0	1.9	--	--	--	--	6.2	--	--
	Jan/Feb 1998	--	1.9	1.7	--	--	--	--	6.6	4.1 Unknown (RT=4.33)	--
	Apr/May 1998	0.5	1.8	1.3	--	--	--	--	5.7	--	5.0
	Jul/Aug 1998	--	1.5	0.9	--	--	--	--	4.6	--	5.2
	Oct/Nov 1998	--	1.4	0.8	--	--	--	--	4.2	--	--
	Feb/Mar 1999	--	1.0	0.5	--	--	--	--	3.5	--	--
	May/Jun 1999	--	1.1	--	--	--	--	--	2.5(EB)	0.6 Dichloromethane	--
	Aug 1999	--	1.0	--	--	--	--	--	2.8	--	--
	Nov/Dec 1999	--	0.8	--	--	--	--	--	0.8(EB)	--	--
	Mar/Apr 2000	--	1.1	0.5	--	--	--	--	3.1(EB)	--	--
	Jul/Aug 2000	--	0.6	--	--	--	--	--	2.6(EB)	--	--
Screen 4	Aug/Sep 1996	2.2	--	0.7	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	2.2	--	0.7	--	--	--	--	0.5	1.4(TB) Acetone	(1)
	Feb/Mar 1997	2.2	--	1.5	--	--	--	--	0.6	--	(1)
	Jun/Jul 1997	1.9	--	0.7	--	--	--	--	--	--	11
	Sep/Oct 1997	2.4	--	0.7	--	--	--	--	--	1.5 Carbon Disulfide	12
	Jan/Feb 1998	2.6	--	1.0	--	--	--	--	0.5	--	11

TABLE 3-4

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	<b>3.1</b>	0.6	1.4	--	--	--	--	0.8	--	13
	Jul/Aug 1998	<b>2.5</b>	0.6	1.2	--	--	--	--	0.6	--	16
	Oct/Nov 1998	<b>3.4</b>	0.8	1.5	--	--	--	--	0.7	--	19
	Feb/Mar 1999	<b>4.7</b>	1.2	2.3	--	--	--	--	1.1	--	24
	May/Jun 1999	<b>3.6</b>	1.6	2.5	--	--	--	--	1.1(EB)	0.7 Dichloromethane	16
	Aug 1999	<b>3.6</b>	1.1	1.9	--	--	--	--	0.8	--	23
	Nov/Dec 1999	<b>3.8</b>	1.2	2.0	--	--	--	--	0.8(EB)	--	23
	Mar/Apr 2000	<b>3.8</b>	1.2	2.2	--	--	--	--	0.9(EB)	--	24
	Jul/Aug 2000	<b>3.6</b>	1.1	2.0	--	--	--	--	0.9(EB)	--	24
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.6 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	1.1 Carbon Disulfide	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	4.6 Hexane	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	0.8 Dichloromethane	--
	Aug 1999	--	--	--	--	--	--	--	--	1.0 Unknown (RT=4.25)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.6 Unknown (RT=4.82)	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<b>MW-19</b>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	0.9	3.7(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.6	2.9 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	0.8	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	2.5	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	1.4	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	0.8	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 2	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Aug/Sep 1996	--	--	0.8	--	--	--	--	--	3.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	1.1	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	0.6	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	0.6	0.9	--	--	--	--	--	--	--
	Apr/May 1998	--	0.9	1.2	--	--	--	--	--	--	--
	Jul/Aug 1998	--	0.6	0.7	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.6	--	--	--	--	--	--	--	--
	May/Jun 1999	--	1.3	1.1	--	--	--	--	--	--	4.5
	Aug 1999	--	0.7	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	0.5	--	--	--	--	--	--	--	--
Screen 3	Mar/Apr 2000	--	0.6	0.5	--	--	--	--	--	--	--
	Jul/Aug 2000	--	0.6	--	--	--	--	--	--	--	--
	Aug/Sep 1996	--	--	3.1	--	--	--	--	--	2.6(B) Acetone	(1)
	Oct/Nov 1996	--	--	2.5	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	2.1	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	2.0	--	--	--	--	--	--	4.1
	Sep/Oct 1997	--	--	1.5	--	--	--	--	--	0.6 Toluene	--
	Jan/Feb 1998	--	--	2.1	--	--	--	--	--	--	--
	Apr/May 1998	--	--	2.5	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	2.1	--	--	--	--	--	--	4.4
	Oct/Nov 1998	--	--	2.0	--	--	--	--	--	--	4.2
	Feb/Mar 1999	--	--	1.5	--	--	--	--	--	--	--
	May/Jun 1999	--	0.9	2.7	--	--	--	--	--	--	7.2
	Aug 1999	--	0.6	1.9	--	--	--	--	--	--	4.4
	Nov/Dec 1999	--	0.6	1.9	--	--	--	--	--	--	5.0
	Mar/Apr 2000	--	0.8	2.0	--	--	--	--	--	--	4.8
	Jul/Aug 2000	--	0.7	1.8	--	--	--	--	--	--	5.0

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Aug/Sep 1996	<b>0.5</b>	1.5	--	--	--	--	--	2.1	--	(1)
	Oct/Nov 1996	--	1.5	--	--	--	--	--	1.9	--	(1)
	Feb/Mar 1997	--	1.1	0.6	--	--	--	--	1.5	--	(1)
	Jun/Jul 1997	--	0.7	--	--	--	--	--	1.3	--	--
	Sep/Oct 1997	--	0.7	0.6	--	--	--	--	1.7	--	4.9
	Jan/Feb 1998	--	0.5	0.6	--	--	--	--	1.3	--	--
	Apr/May 1998	--	0.8	1.0	--	--	--	--	1.6	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	1.4	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	2.2	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	3.0	--	--
	May/Jun 1999	--	0.7	--	--	--	--	--	2.6(EB)	--	--
	Aug 1999	--	0.5	--	--	--	--	--	2.7	--	--
	Nov/Dec 1999	--	0.5	--	--	--	--	--	2.1(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	2.0(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	3.2(EB)	--	--
Screen 5	Aug/Sep 1996	--	--	3.0	--	--	--	--	0.6	1.6(B) Unknown scan #940	(1)
	Oct/Nov 1996	--	--	2.4	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	1.7	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	1.5	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	2.2	--	--	--	--	0.8	--	--
	Jan/Feb 1998	--	--	1.4	--	--	--	--	--	--	--
	Apr/May 1998	--	--	0.9	--	--	--	--	0.6	--	--
	Jul/Aug 1998	--	--	1.5	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	1.5	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	1.3	--	--	--	--	--	--	--
	May/Jun 1999	--	--	2.1	--	--	--	--	--	0.7 Dichloromethane	4.4
	Aug 1999	--	--	1.5	--	--	--	--	--	--	4.2
	Nov/Dec 1999	--	--	1.5	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	1.4	--	--	--	--	0.6(EB)	--	--
	Jul/Aug 2000	--	0.5	1.7	--	--	--	--	0.5(EB)	--	4.2
<i>MW-20</i>											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	0.7	3.4(B) Acetone	(1)
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.4	2.4(EB) Acetone	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.8	--	5.7
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	--	--	--	--	--	--	1.4	--	6.3
	Apr/May 1998	--	--	--	--	--	--	--	2.5	--	5.5

**TABLE 3-4**  
**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED**  
**DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in µg/L)  
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 1998	--	--	--	--	--	--	--	1.8	--	5.9
	Oct/Nov 1998	--	--	--	--	--	--	--	0.8	--	7.8
	Feb/Mar 1999	--	--	--	--	--	--	--	2.2	--	4.9
	May/Jun 1999	--	--	--	--	--	--	--	1.9(EB)	--	4.4
	Aug 1999	--	--	--	--	--	--	--	0.6	--	7.5
	Nov/Dec 1999	--	--	--	--	--	--	--	1.3(EB)	--	7.7
	Mar/Apr 2000	--	--	--	--	--	--	--	1.1(EB)	--	7.6
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	7.5
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	7.7	4.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	4.4	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	3.2	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	3.3	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	5.7	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	2.7	--	--
	Apr/May 1998	--	--	--	--	--	--	--	2.7	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	4.2	0.5 Dichlorobromomethane	--
	Oct/Nov 1998	--	--	--	--	--	--	--	3.6	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	4.2	--	--
	May/Jun 1999	--	--	--	--	--	--	--	4.6(EB)	0.6 Bromodichloromethane	--
	Aug 1999	--	--	--	--	--	--	--	4.8	0.6 Bromodichloromethane	--
	Nov/Dec 1999	--	--	--	--	--	--	--	3.8(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	3.8(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	4.1(EB)	0.6 Bromodichloromethane	--
Screen 3	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.7(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.6	2.3 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	3.4 Unknown (RT=6.2)	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.8(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	20
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	4.8(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	8.2
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	0.7 Carbonyl Sulfide	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<b>MW-21</b>											
Screen 1	Aug/Sep 1996	--	<b>33</b>	0.7	--	--	--	--	1.8	2.3(B) Acetone	(1)
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	<b>29</b>	--	--	--	--	--	2.2	--	(1)
	Jun/Jul 1997	--	<b>20</b>	--	--	--	--	--	1.6	--	19
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	<b>16</b>	--	--	--	--	--	1.8	--	14
	Apr/May 1998	--	<b>16</b>	--	--	--	--	--	1.8	--	14

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 1998	--	<b>16</b>	0.6	--	--	--	--	1.8	--	13
	Oct/Nov 1998	--	<b>10</b>	--	--	--	--	--	1.6	--	13
	Feb/Mar 1999	--	<b>20</b>	0.5	--	--	--	--	1.8	--	14
	May/Jun 1999	--	<b>20</b>	0.5	--	--	--	--	1.6(EB)	--	15
	Aug 1999	--	<b>17</b>	0.5	--	--	--	--	1.7	--	12
	Nov/Dec 1999	--	<b>15</b>	0.7	--	--	--	--	2.2(EB)	--	16
	Mar/Apr 2000	--	<b>17</b>	0.7	--	--	--	--	1.8(EB)	--	12
	Jul/Aug 2000	--	<b>12</b>	0.5	--	--	--	--	1.7(EB)	--	16
Screen 2	Aug/Sep 1996	--	--	0.9	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	--	0.6	2.3	--	--	--	--	0.6	1.4(TB) Acetone	(1)
	Feb/Mar 1997	--	--	1.1	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	0.7	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	1.1	--	--	--	--	--	--	--
	Apr/May 1998	--	--	1.0	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	0.7	--	--	--	--	0.7	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	0.7	--	--
	Feb/Mar 1999	--	--	0.8	--	--	--	--	--	--	--
	May/Jun 1999	--	--	0.6	--	--	--	--	--	--	--
	Aug 1999	--	--	0.8	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	1.2	--	--	--	--	--	--	4.6
	Mar/Apr 2000	--	--	0.9	--	--	--	--	--	1.8 Carbonyl Sulfide	4.1
	Jul/Aug 2000	--	--	0.9	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	--	0.7	1.5	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	--	0.9	1.6	--	--	--	--	--	1.2 Acetone	(1)
	Feb/Mar 1997	--	0.8	1.6	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	1.2	--	--	--	--	--	--	--
	Sep/Oct 1997	--	0.6	1.3	--	--	--	--	--	--	--
	Jan/Feb 1998	--	0.5	1.4	--	--	--	--	--	--	--
	Apr/May 1998	--	--	1.1	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	0.9	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	0.8	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	1.0	--	--	--	--	--	--	4.1
	May/Jun 1999	--	0.6	1.4	--	--	--	--	--	--	--
	Aug 1999	--	0.6	1.3	--	--	--	--	--	--	--
	Nov/Dec 1999	--	0.9	2.2	--	--	--	--	0.6(EB)	4.9 Carbonyl Sulfide	4.8

TABLE 3-4

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(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Mar/Apr 2000	--	0.9	2.3	--	--	--	--	0.6(EB)	--	--
	Jul/Aug 2000	--	0.6	1.5	--	--	--	--	0.7(EB)	--	--
	Aug/Sep 1996	--	0.8	4.2	--	--	--	--	--	1.6 Acetone	(1)
	Oct/Nov 1996	--	--	2.5	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	1.8	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	2.8	--	--	--	--	--	--	4.6
	Sep/Oct 1997	--	0.6	4.4	--	--	--	--	--	--	7.7
	Jan/Feb 1998	--	--	2.4	--	--	--	--	--	--	--
	Apr/May 1998	--	0.6	4.4	--	--	--	--	--	0.7 cis-1,2-Dichloroethene	--
	Jul/Aug 1998	--	0.8	4.3	--	--	--	--	--	0.8 cis-1,2-Dichloroethene	4.3
	Oct/Nov 1998	--	1.1	8.3	--	--	--	--	0.6	1.3 cis-1,2-Dichloroethene	--
	Feb/Mar 1999	--	--	3.8	--	--	--	--	--	0.7 cis-1,2-Dichloroethene	--
	May/Jun 1999	--	--	3.2	--	--	--	--	--	0.6 cis-1,2-Dichloroethene	4.8
	Aug 1999	--	0.7	6.1	--	--	--	--	0.6	1.2 cis-1,2-Dichloroethene	--
Screen 4	Nov/Dec 1999	--	0.6	6.0	--	--	--	--	--	5.1 Carbonyl Sulfide	--
	Mar/Apr 2000	--	--	4.0	--	--	--	--	--	1.1 cis-1,2-Dichloroethene	--
	Jul/Aug 2000	--	0.5	6.2	--	--	--	--	0.7(EB)	0.9 cis-1,2-Dichloroethene	--
	Nov/Dec 1999	--	--	11.4	--	--	--	--	--	1.3 cis-1,2-Dichloroethene	--
Screen 5	Aug/Sep 1996	--	--	4.5	--	--	--	--	0.6	--	(1)
	Oct/Nov 1996	--	--	3.1	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	3.0	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	3.0	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	2.9	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	4.1	--	--	--	--	--	0.6 cis-1,2-Dichloroethene 5.0 Carbon Disulfide <sup>(3)</sup>	5.2
	Apr/May 1998	--	--	6.5	--	--	--	--	--	1.0 cis-1,2-Dichloroethene	5.8
	Jul/Aug 1998	--	--	7.6	--	--	--	--	0.6	1.5 cis-1,2-Dichloroethene	--
	Oct/Nov 1998	--	--	6.7	--	--	--	--	0.6	1.4 cis-1,2-Dichloroethene	4.0
	Feb/Mar 1999	--	0.5	7.7	--	--	--	--	0.7	1.4 cis-1,2-Dichloroethene	4.2
	May/Jun 1999	--	--	8.2	--	--	--	--	0.7(EB) <sup>(3)</sup>	1.5 cis-1,2-Dichloroethene	--
	Aug 1999	--	0.6	9.6	--	--	--	--	0.8	1.6 cis-1,2-Dichloroethene 1.4 Chlorodifluoromethane	--
	Nov/Dec 1999	--	0.7	11.4	--	--	--	--	1.0(EB)	2.2 cis-1,2-Dichloroethene	4.9
	Mar/Apr 2000	--	0.7	12	--	--	--	--	1.2(EB)	2.5 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	4.2
	Jul/Aug 2000	--	0.6	11	--	--	--	--	1.2(EB)	2.2 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	--

TABLE 3-4

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JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
<b>MW-22<sup>(8)</sup></b>											
Screen 1	Sep/Oct 1997	--	--	2.0	0.7	--	--	--	--	--	--
	Jan/Feb 1998	--	--	2.3	0.8	--	--	0.5	--	--	--
	Apr/May 1998	--	0.9	2.1	0.8	--	--	--	0.5	--	5.4
	Jul/Aug 1998	--	0.9	1.7	0.6	--	--	--	--	--	6.4
	Oct/Nov 1998	--	--	1.7	0.7	--	--	--	--	--	5.0
	Feb/Mar 1999	--	0.6	3.6	1.0	--	--	1.3 <sup>(4)</sup>	0.5	--	6.4
	May/Jun 1999	--	--	2.7	1.0	--	--	--	--	--	4.9
	Aug 1999	--	--	2.1	0.7	--	--	--	--	--	--
	Nov/Dec 1999	--	--	3.6	0.9	--	--	--	0.5(EB)	--	4.2
	Mar/Apr 2000	--	--	3.1	0.7	--	--	--	--	--	4.3
	Jul/Aug 2000	--	--	3.2	0.6	--	--	--	--	--	4.4
Screen 2	Sep/Oct 1997	--	--	--	--	--	--	--	--	0.8 Dichloromethane	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.6	--	--	--	--	1.4 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	15
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--

**TABLE 3-4**  
**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
 DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
 JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 5	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
MW-23 <sup>(8)</sup>	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3 <sup>(4)</sup>	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	3.1	0.6	0.8	--	--	--	--	--	4.4
Screen 2	Jan/Feb 1998	--	4.2	1.6	1.2	--	--	--	0.9	0.6 1,2,3-Trichlorobenzene	5.2
	Apr/May 1998	0.5	16	0.8	1.2	--	--	--	1.9	--	16
	Jul/Aug 1998	0.5	9.2	--	--	--	--	--	1.0	2.2 Dichloromethane <sup>(3)</sup>	19
	Oct/Nov 1998	0.8	15	--	--	--	--	--	1.9	--	21
	Feb/Mar 1999	0.6	15	1.1	1.4	--	--	--	1.9	0.06 1,2,3-Trichlorobenzene	8.4
	May/Jun 1999	--	7.0	1.1	--	--	--	0.6	1.0(EB)	0.7 1,2,3-Trichlorobenzene	7.6
	Aug 1999	--	3.5	1.1	1.0	--	--	--	0.7(EB)	--	--
	Nov/Dec 1999	--	1.2	1.3	1.0	--	--	--	0.5(EB)	1.1 1,2,3-Trichlorobenzene	4.1
	Mar/Apr 2000	--	1.5	2.3	1.3	--	--	--	0.7(EB)	1.2 1,2,3-Trichlorobenzene	4.3
	Jul/Aug 2000	--	1.4	0.9	--	--	0.6	--	0.5(EB)	--	4.9

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 3	May/Jun 1999	--	--	--	0.5	--	--	--	0.6(EB)	--	7.8
	Aug 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	7.5
	Mar/Apr 2000	--	--	0.6	--	--	--	--	0.6(EB)	--	7.2
	Jul/Aug 2000	--	--	0.7	--	--	--	--	0.7(EB)	--	6.6
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.7 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	2.3 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
Screen 6	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.7 Dichloromethane <sup>(4)</sup>	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	3.0 Unknown (RT=3.93)	--
Screen 7	Feb/Mar 1999	--	--	--	--	--	--	--	--	3.1 2-Methyl-1-propene	17
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
<b>MW-24<sup>(8)</sup></b>											
Screen 1	Sep/Oct 1997	<b>5.0</b>	5.0	--	--	--	--	0.6	3.1	--	92
	Jan/Feb 1998	<b>30 E</b>	<b>15</b>	0.5	--	<b>0.8</b>	--	0.6	15	--	330
	Apr/May 1998	<b>6.7</b>	<b>5.4</b>	--	--	--	--	--	3.3	--	74
	Jul/Aug 1998	--	1.7	--	--	--	--	--	0.9	--	20
	Oct/Nov 1998	<b>1.0</b>	1.3	--	--	--	--	--	0.8	--	16
	Feb/Mar 1999	<b>1.0</b>	1.5	--	--	--	--	--	0.8	--	14
	May/Jun 1999	<b>1.0</b>	1.6	--	--	--	--	--	0.6(EB)	--	14
	Aug 1999	<b>1.8</b>	3.6	--	--	--	--	--	1.3	--	22
	Nov/Dec 1999	<b>6.3</b>	<b>5.3</b>	--	--	--	--	--	2.5(EB)	--	91
	Mar/Apr 2000	<b>15</b>	<b>8.6</b>	0.6	--	--	--	0.6	5.1(EB)	--	270
	Jul/Aug 2000	<b>18</b>	7.7	0.9	--	--	--	--	4.5(EB)	--	440
Screen 2	Sep/Oct 1997	<b>13</b>	1.3	--	--	--	--	--	3.8	--	200
	Jan/Feb 1998	<b>6.9</b>	0.7	--	--	--	--	--	2.4	--	110
	Apr/May 1998	<b>29</b>	3.3	0.9	--	--	1.4	--	9.4	--	480
	Jul/Aug 1998	<b>58</b>	4.0	1.5	--	--	2.0	--	8.4	--	500
	Oct/Nov 1998	<b>19</b>	2.3	0.8	--	--	0.8	--	5.9	--	490
	Feb/Mar 1999	<b>30 E</b>	3.0	1.0	--	--	1.5	--	6.6	--	580
	May/Jun 1999	<b>33</b>	4.3	1.3	--	--	1.8	--	7.7(EB)	--	690
	Aug 1999	<b>35</b>	3.6	0.9	--	--	1.4	--	7.5	--	700
	Nov/Dec 1999	<b>25</b>	3.7	0.9	--	--	1.4	--	7.4(EB)	--	570
	Mar/Apr 2000	<b>28</b>	4.3	1.1	--	--	1.9	--	8.0(EB)	--	570
	Jul/Aug 2000	<b>23 E</b>	3.3	0.8	--	--	1.2	--	7.7(EB)	--	530
Screen 3	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-4

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED  
DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Practical Quantitation Limit		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.0
California Maximum Contaminant Level		0.5	5.0	5.0	5.0	0.5	6.0	1,200	100	150 Freon 11 <sup>(9)</sup> 6.0 cis-1,2-Dichloroethene <sup>(9)</sup> 1,1,1-Trichloroethane <sup>(9)</sup>	18 <sup>(10)</sup>
EPA Region IX Maximum Contaminant Level		5.0	5.0	5.0	NE	5.0	7.0	NE	100	5.0 Dichloromethane <sup>(9)</sup> 70 cis-1,2-Dichloroethene <sup>(9)</sup> 100 Bromodichloromethane <sup>(9)</sup> 1,1,1-Trichloroethane <sup>(9)</sup>	NE

- : Not detected.  
 B: Compound detected in laboratory method blank.  
 EB: Compound detected in associated equipment blank.  
 RT: Retention time.  
 TB: Compound detected in associated trip blank.  
 FB: Compound detected in associated field blank.  
 E: Estimated concentration; result exceeded calibration range.  
 NE: Not established.
- 1: Perchlorate not part of monitoring program.  
 2: Monitoring point not sampled for the particular constituent due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.  
 3: Suspected by the laboratory to have resulted from carry over in analysis (see January/February 1998 report).  
 4: Attributed to laboratory contamination.  
 5: Results from duplicate analysis; original sample was non-detect.  
 6: Not sampled, no water over screen.  
 7: Not sampled due to mechanical failure.  
 8: Wells installed June-August 1997.  
 9: Only VOCs for which MCLs have been established are listed.  
 10: California Department of Health Services Interim Action Level.

TABLE 3-5

**RESULTS OF METALS ANALYSIS OF GROUNDWATER  
SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in mg/L)

Values equal to or above state MCLs, (or other applicable regulatory limits), are bold and shaded

Sample Location	Sample Number	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b><i>MW-1</i></b>	MW-002-001	--	--	--	--	0.09
<b><i>MW-3</i></b>						
Screen 1	MW-002-002	--	--	--	--	7.60
Screen 2	MW-002-003	--	--	--	--	1.24
Screen 3	MW-002-004	--	--	--	--	1.13
Screen 4	MW-002-005	--	--	--	--	1.58
Screen 5	MW-002-006	--	--	--	--	11.6
<b><i>MW-4</i></b>						
Screen 1	MW-002-007	--	--	--	--	8.60
Screen 2	MW-002-008	--	--	0.013	--	6.99
Screen 2 (DUP)	MW-002-009	--	--	0.014	--	6.99
Screen 3	MW-002-010	--	--	--	--	9.64
Screen 4	MW-002-011	--	--	--	--	5.29
Screen 5	MW-002-012	--	--	--	--	0.40
<b><i>MW-5</i></b>	MW-002-013	--	--	--	--	1.30
<b><i>MW-6</i></b>	MW-002-014	--	--	<b>0.051</b>	--	10.5
<b><i>MW-7</i></b>	MW-002-015	--	--	0.014	--	30.0
<b><i>MW-8</i></b>	MW-002-016	--	--	0.016	--	5.25
<b><i>MW-9</i></b>	MW-002-017	--	--	--	--	2.30
<b><i>MW-10</i></b>	MW-002-018	--	--	0.012	--	1.75
<b><i>MW-10 DUP</i></b>	MW-002-019	--	--	--	--	1.75
<b><i>MW-11</i></b>						
Screen 1	MW-002-020	--	--	--	--	0.77
Screen 2	MW-002-021	--	--	--	--	0.99
Screen 3	MW-002-022	--	--	--	--	1.57
Screen 4	MW-002-023	--	--	--	--	1.94
Screen 5	MW-002-024	--	--	--	--	0.29
<b><i>MW-12</i></b>						
Screen 1	MW-002-025	--	--	--	--	33.6
Screen 2	MW-002-026	--	--	--	--	1.70
Screen 2 (DUP)	MW-002-027	--	--	--	--	1.70
Screen 3	MW-002-028	--	--	--	--	0.35
Screen 4	MW-002-029	--	--	--	--	0.57
Screen 5	MW-002-030	--	--	--	--	1.71

TABLE 3-5

**RESULTS OF METALS ANALYSIS OF GROUNDWATER  
SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in mg/L)

Values equal to or above state MCLs, (or other applicable regulatory limits), are bold and shaded

Sample Location	Sample Number	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b><i>MW-13</i></b>	MW-002-031	--	--	0.041	0.019	1.38
<b><i>MW-13 DUP</i></b>	MW-002-032	--	--	0.044	0.018	1.38
<b><i>MW-14</i></b>						
Screen 1	MW-002-033	--	--	--	--	2.15
Screen 2	MW-002-034	--	--	--	--	3.42
Screen 3	MW-002-035	--	--	--	--	0.15
Screen 4	MW-002-036	--	--	--	--	0.23
Screen 5	MW-002-037	--	--	--	--	2.85
<b><i>MW-15</i></b>	MW-002-038	--	--	--	--	0.38
<b><i>MW-16</i></b>	MW-002-039	--	--	--	0.006	0.23
<b><i>MW-17</i></b>						
Screen 1	MW-002-040	--	--	--	--	1.45
Screen 2	MW-002-041	--	--	--	--	1.32
Screen 3	MW-002-042	--	--	--	--	1.80
Screen 4	MW-002-043	--	--	--	--	1.43
Screen 5	MW-002-044	--	--	--	--	4.44
<b><i>MW-18</i></b>						
Screen 1	MW-002-045	--	--	--	--	0.13
Screen 2	MW-002-046	--	--	--	--	2.10
Screen 3	MW-002-047	--	--	--	--	0.11
Screen 4	MW-002-048	--	--	--	--	0.40
Screen 5	MW-002-049	--	--	--	--	1.79
<b><i>MW-19</i></b>						
Screen 1	MW-002-050	--	--	--	--	0.76
Screen 2	MW-002-051	--	--	--	--	0.33
Screen 3	MW-002-052	--	--	--	--	5.44
Screen 4	MW-002-053	--	--	--	--	2.31
Screen 5	MW-002-054	--	--	--	--	0.18
<b><i>MW-20</i></b>						
Screen 1	MW-002-055	--	--	--	--	0.23
Screen 2	MW-002-056	--	--	--	--	0.03
Screen 3	MW-002-057	--	--	--	--	0.07
Screen 4	MW-002-058	--	--	--	--	1.55
Screen 5	MW-002-059	--	--	--	--	2.30

TABLE 3-5

**RESULTS OF METALS ANALYSIS OF GROUNDWATER  
SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(concentrations in mg/L)

Values equal to or above state MCLs, (or other applicable regulatory limits), are bold and shaded

Sample Location	Sample Number	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b><i>MW-21</i></b>						
Screen 1	MW-002-060	--	--	--	--	0.24
Screen 2	MW-002-061	--	--	--	--	0.76
Screen 3	MW-002-062	--	--	--	--	1.24
Screen 4	MW-002-063	--	--	--	--	6.20
Screen 5	MW-002-064	--	--	--	--	3.01
<b><i>MW-22</i></b>						
Screen 1	MW-002-065	--	--	--	--	15.8
Screen 2	MW-002-066	--	--	--	--	0.55
Screen 3	MW-002-067	--	--	--	--	0.46
Screen 4	MW-002-068	--	--	--	--	0.81
Screen 5	MW-002-069	--	--	--	--	0.44
<b><i>MW-23</i></b>						
Screen 1	MW-002-070	--	--	--	--	13.1
Screen 2	MW-002-071	--	--	--	--	1.74
Screen 3	MW-002-072	--	--	--	--	2.71
Screen 4	MW-002-073	--	--	--	--	0.83
Screen 5	MW-002-074	--	--	--	--	1.36
<b><i>MW-24</i></b>						
Screen 1	MW-002-075	--	--	--	--	0.82
Screen 2	MW-002-076	--	--	--	--	14.1
Screen 3	MW-002-077	--	--	--	--	6.85
Screen 4	MW-002-078	--	--	--	--	4.88
Screen 5	MW-002-079	--	--	--	--	16.1
Practical Quantitation Limit		0.005	0.002	0.010	0.005	
California Maximum Contaminant Level		0.050	0.015 <sup>1</sup>	0.050	NE	
EPA Maximum Contaminant Level		0.050	0.015 <sup>1</sup>	0.100	NE	

(DUP): Duplicate.

NE: Not established.

--: Not detected.

1: Action Level: Treatment technique and public notification triggered.

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b>MW-1</b>	Aug/Sep 1996	--	--	--	--	0.8
	Oct/Nov 1996	--	--	--	--	0.5
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	0.7
	Jan/Feb 1998	--	--	--	--	1.6
	Apr/May 1998	--	--	--	--	0.5
	Jul/Aug 1998	--	0.009	<b>0.055<sup>(1)</sup></b>	--	1.0
	Oct/Nov 1998	--	--	--	--	1.1
	Feb/Mar 1999	--	--	--	--	1.9
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.1
<b>MW-3</b>	Screen 1	Aug/Sep 1996	--	--	--	7.2
		Oct/Nov 1996	--	--	--	3.1
		Feb/Mar 1997	--	--	--	6.1
		Jun/Jul 1997	--	--	--	2.6
		Sep/Oct 1997	--	--	--	2.1
		Jan/Feb 1998	--	--	--	2.9
		Apr/May 1998	--	--	--	4.8
		Jul/Aug 1998	--	--	--	4.5
		Oct/Nov 1998	--	--	--	3.8
		Feb/Mar 1999	--	--	--	4.7
		May/Jun 1999	--	--	--	4.6
		Aug 1999	(2)	(2)	(2)	(2)
		Nov/Dec 1999	(2)	(2)	--	4.5
		Mar/Apr 2000	(2)	(2)	(2)	(2)
		Jul/Aug 2000	--	--	--	7.6
<b>Screen 2</b>	Aug/Sep 1996	--	--	--	--	1.7
	Oct/Nov 1996	--	--	--	--	2.7
	Feb/Mar 1997	--	--	--	--	3.8
	Jun/Jul 1997	--	--	--	--	1.1
	Sep/Oct 1997	--	--	--	--	2.1
	Jan/Feb 1998	--	--	--	--	2.3
	Apr/May 1998	--	--	--	--	4.3
	Jul/Aug 1998	--	0.004	--	--	3.3
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	2.1
	May/Jun 1999	--	--	--	--	3.1
	Aug 1999	(2)	(2)	--	--	1.0
	Nov/Dec 1999	(2)	(2)	--	--	3.9
	Mar/Apr 2000	(2)	(2)	--	--	3.5
	Jul/Aug 2000	--	--	--	--	1.2

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 3	Aug/Sep 1996	--	--	--	--	5.2
	Oct/Nov 1996	--	--	--	--	2.7
	Feb/Mar 1997	--	--	--	--	1.7
	Jun/Jul 1997	--	--	--	--	3.4
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	3.3
	Feb/Mar 1999	--	--	--	--	3.2
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	2.5
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	--	--	2.1
	Jul/Aug 2000	--	--	--	--	1.1
Screen 4	Aug/Sep 1996	--	--	--	--	4.3
	Oct/Nov 1996	--	--	--	--	2.6
	Feb/Mar 1997	--	--	--	--	4.5
	Jun/Jul 1997	--	--	--	--	2.7
	Sep/Oct 1997	--	--	--	--	2.5
	Jan/Feb 1998	--	--	--	--	3.0
	Apr/May 1998	--	--	--	--	3.6
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	3.5
	May/Jun 1999	--	--	--	--	1.5
	Aug 1999	(2)	(2)	--	--	1.1
	Nov/Dec 1999	(2)	(2)	--	--	2.6
	Mar/Apr 2000	(2)	(2)	--	--	2.2
	Jul/Aug 2000	--	--	--	--	1.6
Screen 5	Aug/Sep 1996	0.011	--	--	--	1.5
	Oct/Nov 1996	0.007	--	--	--	1.9
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	0.007	--	--	--	0.8
	Sep/Oct 1997	0.010	--	--	--	1.0
	Jan/Feb 1998	0.009	0.008	--	--	2.3
	Apr/May 1998	--	0.002	--	--	2.0
	Jul/Aug 1998	0.006	--	--	--	3.2
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	0.006	--	--	--	4.2
	Aug 1999	(2)	(2)	(2)	(2)	5.4
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	10.4
	Jul/Aug 2000	--	--	--	--	11.6

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b><i>MW-4</i></b>						
Screen 1	Aug/Sep 1996	--	--	--	--	2.6
	Oct/Nov 1996	--	--	--	--	1.7
	Feb/Mar 1997	--	--	--	--	4.6
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	3.7
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	--	--	--	1.0
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	1.5
	Jul/Aug 2000	--	--	--	--	8.6
Screen 2	Aug/Sep 1996	--	--	0.023	--	3.8
	Oct/Nov 1996	--	--	0.014	--	4.2
	Feb/Mar 1997	--	--	0.011	--	4.5
	Jun/Jul 1997	--	--	0.013	--	2.7
	Sep/Oct 1997	--	--	0.012	--	3.5
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	1.8
	Jul/Aug 1998	--	--	0.011	--	4.9
	Oct/Nov 1998	--	--	0.010	--	3.4
	Feb/Mar 1999	--	--	--	--	6.1
	May/Jun 1999	--	--	--	--	4.8
	Aug 1999	(2)	(2)	0.010	--	3.8
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	5.7
	Jul/Aug 2000	--	--	0.014	--	7.0
Screen 3	Aug/Sep 1996	--	--	--	--	0.6
	Oct/Nov 1996	--	--	--	--	1.5
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	--	--	--	--	2.0
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	4.6
	Apr/May 1998	--	--	--	--	3.2
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	1.2
	Feb/Mar 1999	--	--	--	--	2.9
	May/Jun 1999	--	--	--	--	4.9
	Aug 1999	(2)	(2)	--	--	2.1
	Nov/Dec 1999	(2)	(2)	--	--	3.0
	Mar/Apr 2000	(2)	(2)	--	--	8.4
	Jul/Aug 2000	--	--	--	--	9.6

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 4	Aug/Sep 1996	--	--	--	--	3.0
	Oct/Nov 1996	--	--	--	--	1.4
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	4.6
	Sep/Oct 1997	--	--	--	--	3.3
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.0
	Jul/Aug 1998	--	--	0.007	--	3.6
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	--	--	--	3.3
	May/Jun 1999	--	--	--	--	2.9
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	1.9
	Mar/Apr 2000	(2)	(2)	--	--	1.0
	Jul/Aug 2000	--	--	--	--	5.3
Screen 5	Aug/Sep 1996	--	--	--	--	4.5
	Oct/Nov 1996	--	--	--	--	4.1
	Feb/Mar 1997	--	--	--	--	4.4
	Jun/Jul 1997	--	--	--	--	4.0
	Sep/Oct 1997	--	--	--	--	3.9
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	3.8
	Jul/Aug 1998	0.005	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	2.9
	Feb/Mar 1999	--	--	--	--	2.4
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	--	--	2.4
	Nov/Dec 1999	(2)	(2)	--	--	3.4
	Mar/Apr 2000	(2)	(2)	--	--	1.1
	Jul/Aug 2000	--	--	--	--	0.4
MW-5	Aug/Sep 1996	--	--	--	--	2.7
	Oct/Nov 1996	--	0.003	--	--	2.7
	Feb/Mar 1997	--	--	--	--	1.5
	Jun/Jul 1997	--	--	--	--	4.5
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	0.9
	Apr/May 1998	--	--	--	--	3.1
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	7.9
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	--	--	4.3
	Nov/Dec 1999	(2)	(2)	--	--	3.6
	Mar/Apr 2000	(2)	(2)	--	--	0.2
	Jul/Aug 2000	--	--	--	--	1.3

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b>MW-6</b>	Aug/Sep 1996	--	--	0.050	--	4.5
	Oct/Nov 1996	--	--	0.011	--	1.1
	Feb/Mar 1997	--	--	0.014	--	4.3
	Jun/Jul 1997	--	--	0.019	--	2.5
	Sep/Oct 1997	--	--	--	--	1.8
	Jan/Feb 1998	--	--	--	--	0.4
	Apr/May 1998	--	--	0.012	--	2.1
	Jul/Aug 1998	--	--	0.013	--	3.0
	Oct/Nov 1998	--	--	0.037	--	3.8
	Feb/Mar 1999	--	--	0.017	--	2.7
	May/Jun 1999	--	--	0.036	--	4.1
	Aug 1999	(2)	(2)	<b>0.31<sup>(3)</sup></b>	--	2.7
	Nov/Dec 1999	(2)	(2)	0.012	--	2.2
	Mar/Apr 2000	(2)	(2)	<b>0.082</b>	--	3.9
	Jul/Aug 2000	--	--	<b>0.051</b>	--	10.5
<b>MW-7</b>	Aug/Sep 1996	--	--	0.013	0.007	4.8
	Oct/Nov 1996	--	--	0.019	0.019	3.5
	Feb/Mar 1997	--	--	--	0.010	2.2
	Jun/Jul 1997	--	--	--	--	1.0
	Sep/Oct 1997	--	--	0.018	--	0.8
	Jan/Feb 1998	--	--	0.012	--	1.2
	Apr/May 1998	--	--	--	--	4.1
	Jul/Aug 1998	--	--	--	--	4.7
	Oct/Nov 1998	--	--	--	--	1.2
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	0.011	--	3.5
	Aug 1999	(2)	(2)	--	0.005	3.1
	Nov/Dec 1999	(2)	(2)	0.010	0.007	1.0
	Mar/Apr 2000	(2)	(2)	0.012	0.008	1.3
	Jul/Aug 2000	--	--	0.014	--	30.0
<b>MW-8</b>	Aug/Sep 1996	--	--	--	--	4.0
	Oct/Nov 1996	--	0.003	--	--	4.7
	Feb/Mar 1997	--	--	--	--	3.1
	Jun/Jul 1997	--	0.002	--	--	4.6
	Sep/Oct 1997	--	--	--	--	4.2
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	0.013	--	2.6
	Jul/Aug 1998	--	--	--	--	1.2
	Oct/Nov 1998	--	--	--	--	3.7
	Feb/Mar 1999	--	--	--	--	1.5
	May/Jun 1999	--	--	--	--	1.5
	Aug 1999	(2)	(2)	0.014	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	--	--	1.3
	Jul/Aug 2000	--	--	0.016	--	5.3

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b>MW-9</b>	Aug/Sep 1996	--	--	--	--	2.1
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	4.2
	Jun/Jul 1997	--	--	--	--	3.2
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	2.4
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.1
	Feb/Mar 1999	--	--	--	--	2.8
	May/Jun 1999	--	--	--	--	0.1
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	2.3
<b>MW-10</b>	Aug/Sep 1996	--	--	0.011	0.010	4.5
	Oct/Nov 1996	--	0.003	0.011	--	4.9
	Feb/Mar 1997	--	--	--	--	2.2
	Jun/Jul 1997	--	--	0.014	--	2.9
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	--	--	--	2.1
	Apr/May 1998	--	0.008	0.010	--	2.6
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	3.6
	Feb/Mar 1999	--	--	0.014	--	3.3
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	3.6
	Nov/Dec 1999	(2)	(2)	0.026	--	4.7
	Mar/Apr 2000	(2)	(2)	0.041	--	9.1
	Jul/Aug 2000	--	--	0.012 <sup>(4)</sup>	--	1.8
<b>MW-11</b>	Screen 1	Aug/Sep 1996	--	--	--	4.0
		Oct/Nov 1996	--	--	--	2.5
		Feb/Mar 1997	--	--	--	2.5
		Jun/Jul 1997	--	--	--	1.5
		Sep/Oct 1997	--	--	--	4.6
		Jan/Feb 1998	--	--	--	1.0
		Apr/May 1998	--	--	--	1.0
		Jul/Aug 1998	--	--	--	4.6
		Oct/Nov 1998	--	--	--	1.4
		Feb/Mar 1999	--	--	--	1.6
		May/Jun 1999	--	--	--	1.1
		Aug 1999	(2)	(2)	--	1.2
		Nov/Dec 1999	(2)	(2)	--	2.4
		Mar/Apr 2000	(2)	(2)	--	2.7
		Jul/Aug 2000	--	--	--	0.8

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 2	Aug/Sep 1996	--	--	--	--	4.5
	Oct/Nov 1996	--	--	--	--	4.7
	Feb/Mar 1997	--	--	--	--	3.1
	Jun/Jul 1997	--	--	--	--	4.7
	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	2.4
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	3.5
	Oct/Nov 1998	--	--	--	--	3.7
	Feb/Mar 1999	--	--	--	--	12.8
	May/Jun 1999	--	--	--	--	1.3
	Aug 1999	(2)	(2)	--	--	1.9
	Nov/Dec 1999	(2)	(2)	--	--	3.3
	Mar/Apr 2000	(2)	(2)	--	--	1.8
	Jul/Aug 2000	--	--	--	--	1.0
Screen 3	Aug/Sep 1996	--	--	--	--	0.5
	Oct/Nov 1996	--	--	--	--	2.3
	Feb/Mar 1997	--	--	--	--	1.7
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	1.4
	Apr/May 1998	--	--	--	--	2.1
	Jul/Aug 1998	--	--	--	--	2.6
	Oct/Nov 1998	--	0.008	--	--	4.5
	Feb/Mar 1999	--	--	--	--	2.6
	May/Jun 1999	--	--	--	--	2.7
	Aug 1999	(2)	(2)	--	--	3.1
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	--	--	1.2
	Jul/Aug 2000	--	--	--	--	1.6
Screen 4	Aug/Sep 1996	--	--	--	--	3.9
	Oct/Nov 1996	--	--	--	--	3.3
	Feb/Mar 1997	--	0.009	--	--	5.2
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	4.2
	Jul/Aug 1998	--	--	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	1.4
	May/Jun 1999	--	--	--	--	4.0
	Aug 1999	(2)	(2)	(2)	(2)	3.5
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.7
	Jul/Aug 2000	--	--	--	--	1.9
Screen 5	Aug/Sep 1996	0.007	--	--	--	0.6
	Oct/Nov 1996	0.005	--	--	--	1.9
	Feb/Mar 1997	--	0.002	--	--	1.6

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jun/Jul 1997	--	--	--	--	0.7
	Sep/Oct 1997	--	--	--	--	2.6
	Jan/Feb 1998	--	--	--	--	1.2
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	1.7
	Oct/Nov 1998	--	--	--	--	1.4
	Feb/Mar 1999	--	--	--	--	4.1
	May/Jun 1999	0.005	--	--	--	1.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.0
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.3
<b><i>MW-12</i></b>						
Screen 1	Aug/Sep 1996	--	0.004	--	--	50.4
	Oct/Nov 1996	(5)	(5)	(5)	(5)	(5)
	Feb/Mar 1997	--	0.003	--	--	3.8
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	(5)	(5)	(5)	(5)	(5)
	Jan/Feb 1998	--	--	--	--	2.6
	Apr/May 1998	--	--	0.010	--	4.8
	Jul/Aug 1998	--	--	--	--	5.0
	Oct/Nov 1998	--	--	--	--	7.4
	Feb/Mar 1999	--	--	--	--	7.5
	May/Jun 1999	--	--	--	--	10.5
	Aug 1999	(2)	(2)	--	--	41.6
	Nov/Dec 1999	(2)	(2)	--	--	13.1
	Mar/Apr 2000	(2)	(2)	--	--	7.9
	Jul/Aug 2000	--	--	--	--	33.6
Screen 2	Aug/Sep 1996	--	<b>0.024</b>	--	--	4.0
	Oct/Nov 1996	--	--	--	--	4.0
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	3.2
	Sep/Oct 1997	--	--	--	--	3.4
	Jan/Feb 1998	--	--	--	--	4.4
	Apr/May 1998	--	--	--	--	1.6
	Jul/Aug 1998	--	0.006	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.9
	Feb/Mar 1999	--	--	--	--	2.5
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	--	--	1.9
	Nov/Dec 1999	(2)	(2)	--	--	1.6
	Mar/Apr 2000	(2)	(2)	--	--	0.9
	Jul/Aug 2000	--	--	--	--	1.7

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 3	Aug/Sep 1996	--	--	--	--	2.5
	Oct/Nov 1996	--	--	--	--	3.1
	Feb/Mar 1997	--	--	--	--	5.0
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	--	4.2
	Jan/Feb 1998	--	--	--	--	2.8
	Apr/May 1998	--	--	--	--	4.4
	Jul/Aug 1998	--	<b>0.018</b>	--	--	3.2
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.6
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	--	--	0.4
	Nov/Dec 1999	(2)	(2)	--	--	0.4
	Mar/Apr 2000	(2)	(2)	--	--	0.8
	Jul/Aug 2000	--	--	--	--	0.4
Screen 4	Aug/Sep 1996	--	0.005	--	--	1.8
	Oct/Nov 1996	--	--	--	--	0.7
	Feb/Mar 1997	--	--	--	--	2.4
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	1.6
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	3.1
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	(2)	(2)	0.9
	Nov/Dec 1999	(2)	(2)	--	--	3.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	0.6
	Jul/Aug 2000	--	--	--	--	0.6
Screen 5	Aug/Sep 1996	--	--	--	--	2.0
	Oct/Nov 1996	--	--	--	--	2.0
	Feb/Mar 1997	--	--	--	--	1.5
	Jun/Jul 1997	--	--	--	--	5.0
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	3.5
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	5.0
	May/Jun 1999	--	--	--	--	3.2
	Aug 1999	(2)	(2)	(2)	(2)	4.8
	Nov/Dec 1999	(2)	(2)	--	--	3.7
	Mar/Apr 2000	(2)	(2)	(2)	(2)	5.9
	Jul/Aug 2000	--	--	--	--	1.7
MW-13	Aug/Sep 1996	--	--	0.046	0.047	4.1
	Oct/Nov 1996	--	0.005	0.031	0.028	3.0
	Feb/Mar 1997	--	--	0.032	0.035	0.5

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jun/Jul 1997	--	--	0.038	0.037	1.2
	Sep/Oct 1997	--	--	0.050	0.045	2.4
	Jan/Feb 1998	--	0.003	0.040	0.036	1.0
	Apr/May 1998	--	--	<b>0.082</b>	0.024	3.5
	Jul/Aug 1998	--	--	0.025	0.023	1.0
	Oct/Nov 1998	--	--	0.036	0.029	3.4
	Feb/Mar 1999	--	--	0.030	0.019	1.0
	May/Jun 1999	--	--	0.024	0.024	0.4
	Aug 1999	(2)	(2)	0.037	0.031	0.15
	Nov/Dec 1999	(2)	(2)	0.034	0.029	1.2
	Mar/Apr 2000	(2)	(2)	0.034	0.030	0.5
	Jul/Aug 2000	--	--	0.044	0.019	1.4
<b>MW-14</b>						
Screen 1	Aug/Sep 1996	--	--	--	--	3.3
	Oct/Nov 1996	--	--	--	--	4.5
	Feb/Mar 1997	--	--	--	--	4.3
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	3.9
	Jan/Feb 1998	--	0.004	--	--	5.0
	Apr/May 1998	--	--	0.011	--	3.1
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.8
	May/Jun 1999	--	--	--	--	3.4
	Aug 1999	(2)	(2)	--	--	1.7
	Nov/Dec 1999	(6)	(6)	(6)	(6)	(6)
	Mar/Apr 2000	(2)	(2)	--	--	1.7
	Jul/Aug 2000	--	--	--	--	2.2
Screen 2	Aug/Sep 1996	--	--	--	--	4.4
	Oct/Nov 1996	--	--	--	--	3.8
	Feb/Mar 1997	--	--	--	--	4.8
	Jun/Jul 1997	--	--	--	--	5.0
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	0.003	--	--	4.8
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	4.7
	May/Jun 1999	--	--	--	--	4.4
	Aug 1999	(2)	(2)	--	--	2.8
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	--	--	1.9
	Jul/Aug 2000	--	--	--	--	3.4

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 3	Aug/Sep 1996	--	--	--	--	1.7
	Oct/Nov 1996	--	--	--	--	2.0
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	0.7
	Sep/Oct 1997	--	--	--	--	2.9
	Jan/Feb 1998	--	0.003	0.026	--	2.1
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	0.8
	Feb/Mar 1999	--	--	--	--	0.7
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	--	--	2.2
	Nov/Dec 1999	(2)	(2)	--	--	0.7
	Mar/Apr 2000	(2)	(2)	--	--	0.6
	Jul/Aug 2000	--	--	--	--	0.2
Screen 4	Aug/Sep 1996	--	--	--	--	3.1
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	4.1
	Jun/Jul 1997	--	--	--	--	2.3
	Sep/Oct 1997	--	--	--	--	1.7
	Jan/Feb 1998	--	0.002	--	--	2.7
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	1.0
	Oct/Nov 1998	--	--	--	--	2.3
	Feb/Mar 1999	--	--	--	--	2.1
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	--	--	1.3
	Jul/Aug 2000	--	--	--	--	0.2
Screen 5	Aug/Sep 1996	--	--	--	--	1.5
	Oct/Nov 1996	--	--	--	--	4.1
	Feb/Mar 1997	--	<b>0.028</b>	--	--	2.3
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.8
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	1.9
	Jul/Aug 1998	--	--	--	--	2.4
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	1.9
	Aug 1999	(2)	(2)	(2)	(2)	1.4
	Nov/Dec 1999	(2)	(2)	--	--	3.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	3.2
	Jul/Aug 2000	--	--	--	--	2.9
MW-15	Aug/Sep 1996	--	--	--	--	1.3
	Oct/Nov 1996	--	--	NS	--	0.5
	Feb/Mar 1997	--	--	--	--	2.6

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jun/Jul 1997	--	--	--	--	0.2
	Sep/Oct 1997	--	--	--	--	0.9
	Jan/Feb 1998	--	--	--	--	1.4
	Apr/May 1998	--	--	--	--	0.4
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.0
	Feb/Mar 1999	--	--	--	--	0.6
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	0.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.4
<b>MW-16</b>	Aug/Sep 1996	--	--	0.018	--	3.4
	Oct/Nov 1996	(5)	(5)	(5)	(5)	1.4
	Feb/Mar 1997	--	--	--	0.007	0.2
	Jun/Jul 1997	--	--	--	--	0.1
	Sep/Oct 1997	(5)	(5)	(5)	(5)	1.4
	Jan/Feb 1998	--	--	--	--	1.1
	Apr/May 1998	--	--	0.014	--	1.4
	Jul/Aug 1998	--	--	--	--	1.9
	Oct/Nov 1998	--	--	0.013	--	0.9
	Feb/Mar 1999	--	--	0.013	0.007	1.0
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	--	0.007	0.5
	Nov/Dec 1999	(2)	(2)	--	0.006	1.9
	Mar/Apr 2000	(2)	(2)	--	--	0.1
	Jul/Aug 2000	--	--	--	0.006	0.2
<b>MW-17</b>	Aug/Sep 1996	--	--	NS	NS	1.0
Screen 1	Oct/Nov 1996	--	--	--	--	2.9
	Feb/Mar 1997	--	--	--	--	2.0
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	1.3
	Jan/Feb 1998	--	--	--	--	5.0
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	1.5
	Oct/Nov 1998	--	--	--	--	0.5
	Feb/Mar 1999	--	--	--	--	1.5
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	1.5

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 2	Aug/Sep 1996	--	--	NS	NS	4.5
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	2.7
	Jun/Jul 1997	--	--	--	--	4.5
	Sep/Oct 1997	--	--	--	--	1.2
	Jan/Feb 1998	--	--	--	--	0.8
	Apr/May 1998	--	--	--	--	2.2
	Jul/Aug 1998	--	0.007	--	--	1.0
	Oct/Nov 1998	--	--	--	--	1.7
	Feb/Mar 1999	--	--	--	--	1.1
	May/Jun 1999	--	--	--	--	1.6
	Aug 1999	(2)	(2)	--	--	12.4
	Nov/Dec 1999	(2)	(2)	--	--	3.1
	Mar/Apr 2000	(2)	(2)	--	--	2.0
	Jul/Aug 2000	--	--	--	--	1.3
Screen 3	Aug/Sep 1996	--	0.002	NS	NS	4.9
	Oct/Nov 1996	--	--	--	--	4.8
	Feb/Mar 1997	--	--	--	--	6.0
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	0.006	2.5
	Jan/Feb 1998	--	--	--	--	3.2
	Apr/May 1998	--	--	--	--	3.6
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	4.4
	Feb/Mar 1999	--	--	--	--	6.3
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	--	--	2.5
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	--	--	3.6
	Jul/Aug 2000	--	--	--	--	1.8
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.8
	Oct/Nov 1996	--	--	--	--	2.6
	Feb/Mar 1997	--	--	--	--	5.6
	Jun/Jul 1997	--	--	--	--	4.1
	Sep/Oct 1997	--	--	--	--	3.6
	Jan/Feb 1998	--	--	--	--	3.9
	Apr/May 1998	--	--	--	--	3.7
	Jul/Aug 1998	--	--	--	--	4.4
	Oct/Nov 1998	--	--	--	--	1.8
	Feb/Mar 1999	--	--	--	--	4.8
	May/Jun 1999	--	--	--	--	7.9
	Aug 1999	(2)	(2)	--	--	4.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	10.0
	Jul/Aug 2000	--	--	--	--	1.4
Screen 5	Aug/Sep 1996	--	--	NS	NS	5.0
	Oct/Nov 1996	--	0.005	--	--	5.2
	Feb/Mar 1997	--	0.003	--	--	25

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jun/Jul 1997	--	--	--	--	34
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	0.002	--	--	3.7
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	5.1
	Feb/Mar 1999	--	0.007	--	--	12.4
	May/Jun 1999	--	0.004	--	--	16.3
	Aug 1999	(2)	(2)	(2)	(2)	2.4
	Nov/Dec 1999	(2)	(2)	--	--	4.4
	Mar/Apr 2000	(2)	(2)	(2)	(2)	80.0
	Jul/Aug 2000	--	--	--	--	4.4
<b>MW-18</b>						
Screen 1	Aug/Sep 1996	--	--	NS	NS	0.9
	Oct/Nov 1996	(5)	--	--	--	--
	Feb/Mar 1997	--	--	--	--	1.9
	Jun/Jul 1997	--	--	--	--	0.4
	Sep/Oct 1997	(5)	--	--	--	--
	Jan/Feb 1998	(5)	--	--	--	--
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	2.3
	Feb/Mar 1999	--	--	--	--	0.7
	May/Jun 1999	--	--	--	--	2.8
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(5)	(5)	(5)	(5)	(5)
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.1
Screen 2	Aug/Sep 1996	--	--	NS	NS	3.5
	Oct/Nov 1996	--	0.003	--	--	3.4
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	--	--	--	--	1.5
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	3.6
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	1.9
	Feb/Mar 1999	--	0.005	--	--	2.7
	May/Jun 1999	--	--	--	--	4.1
	Aug 1999	(2)	(2)	--	--	1.0
	Nov/Dec 1999	(2)	(2)	--	--	4.0
	Mar/Apr 2000	(2)	(2)	--	--	1.8
	Jul/Aug 2000	--	--	--	--	2.1

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 3	Aug/Sep 1996	--	--	NS	NS	4.2
	Oct/Nov 1996	--	0.002	NS	--	4.0
	Feb/Mar 1997	--	--	0.015	0.007	3.3
	Jun/Jul 1997	--	--	--	--	3.9
	Sep/Oct 1997	--	--	--	--	2.1
	Jan/Feb 1998	--	--	--	--	0.6
	Apr/May 1998	--	--	0.012	0.007	0.04
	Jul/Aug 1998	--	--	0.014	--	2.3
	Oct/Nov 1998	--	--	--	--	1.7
	Feb/Mar 1999	--	--	--	0.007	1.2
	May/Jun 1999	--	--	--	--	2.1
	Aug 1999	(2)	(2)	--	--	0.8
	Nov/Dec 1999	(2)	(2)	--	--	0.7
	Mar/Apr 2000	(2)	(2)	--	--	0.2
	Jul/Aug 2000	--	--	--	--	0.1
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.0
	Oct/Nov 1996	--	0.003	--	--	1.9
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	0.005	--	--	--	3.6
	Sep/Oct 1997	--	--	--	--	1.1
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	0.04
	Jul/Aug 1998	--	--	--	--	2.5
	Oct/Nov 1998	--	--	--	--	4.6
	Feb/Mar 1999	--	--	--	--	2.7
	May/Jun 1999	--	--	--	--	3.0
	Aug 1999	(2)	(2)	--	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	1.4
	Mar/Apr 2000	(2)	(2)	--	--	2.3
	Jul/Aug 2000	--	--	--	--	0.4
Screen 5	Aug/Sep 1996	--	--	NS	NS	2.8
	Oct/Nov 1996	--	0.002	--	--	3.6
	Feb/Mar 1997	--	--	--	--	2.9
	Jun/Jul 1997	--	--	--	--	4.0
	Sep/Oct 1997	--	--	--	--	1.7
	Jan/Feb 1998	--	--	--	--	1.6
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	1.1
	Oct/Nov 1998	--	--	--	--	2.8
	Feb/Mar 1999	--	--	--	--	2.0
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	(2)	(2)	0.6
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.3
	Jul/Aug 2000	--	--	--	--	1.8

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

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Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b>MW-19</b>						
Screen 1	Aug/Sep 1996	--	--	NS	NS	5.0
	Oct/Nov 1996	--	--	--	--	3.4
	Feb/Mar 1997	--	--	--	--	6.6
	Jun/Jul 1997	--	--	--	--	0.8
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.2
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	13.0
	Feb/Mar 1999	--	--	--	--	5.0
	May/Jun 1999	--	--	--	--	5.0
	Aug 1999	(2)	(2)	(2)	(2)	1.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.8
	Jul/Aug 2000	--	--	--	--	0.8
Screen 2	Aug/Sep 1996	--	--	NS	NS	4.5
	Oct/Nov 1996	--	--	--	--	3.6
	Feb/Mar 1997	--	--	--	--	22
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.3
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	4.8
	Feb/Mar 1999	--	--	--	--	3.9
	May/Jun 1999	--	--	--	--	2.3
	Aug 1999	(2)	(2)	(2)	(2)	0.1
	Nov/Dec 1999	(2)	(2)	--	--	1.5
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.9
	Jul/Aug 2000	--	--	--	--	0.3
Screen 3	Aug/Sep 1996	--	--	NS	NS	3.0
	Oct/Nov 1996	--	--	--	--	5.0
	Feb/Mar 1997	--	--	--	--	4.9
	Jun/Jul 1997	--	--	--	--	4.9
	Sep/Oct 1997	--	--	--	--	2.0
	Jan/Feb 1998	--	--	--	--	4.1
	Apr/May 1998	--	--	--	--	2.4
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	3.4
	Feb/Mar 1999	--	--	--	--	4.1
	May/Jun 1999	--	--	--	--	2.5
	Aug 1999	(2)	(2)	(2)	(2)	0.2
	Nov/Dec 1999	(2)	(2)	--	--	3.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.8
	Jul/Aug 2000	--	--	--	--	5.4

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 4	Aug/Sep 1996	--	--	NS	NS	4.2
	Oct/Nov 1996	--	--	--	--	8.0
	Feb/Mar 1997	--	0.003	--	--	16
	Jun/Jul 1997	--	--	--	--	4.9
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	4.8
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	1.5
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	(2)	(2)	1.0
	Nov/Dec 1999	(2)	(2)	--	--	3.1
	Mar/Apr 2000	(2)	(2)	(2)	(2)	0.7
	Jul/Aug 2000	--	--	--	--	2.3
Screen 5	Aug/Sep 1996	--	--	NS	NS	4.9
	Oct/Nov 1996	--	--	NS	--	4.6
	Feb/Mar 1997	--	--	--	--	3.8
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	4.0
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	0.010	--	--	4.8
	Oct/Nov 1998	--	--	--	--	2.5
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	(2)	(2)	0.8
	Nov/Dec 1999	(2)	(2)	--	--	1.0
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.0
	Jul/Aug 2000	--	--	--	--	0.2
<b>MW-20</b>						
Screen 1	Aug/Sep 1996	--	--	--	NS	3.5
	Oct/Nov 1996	(5)	(5)	(5)	(5)	(5)
	Feb/Mar 1997	--	--	--	--	2.3
	Jun/Jul 1997	--	--	--	--	0.2
	Sep/Oct 1997	(5)	(5)	(5)	(5)	(5)
	Jan/Feb 1998	--	--	--	--	3.2
	Apr/May 1998	--	--	--	--	2.9
	Jul/Aug 1998	--	--	--	--	3.2
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	0.5
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	--	--	3.2
	Nov/Dec 1999	(2)	(2)	--	--	0.8
	Mar/Apr 2000	(2)	(2)	--	--	2.8
	Jul/Aug 2000	--	--	--	--	0.2

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 2	Aug/Sep 1996	--	--	NS	NS	3.9
	Oct/Nov 1996	--	--	--	--	1.1
	Feb/Mar 1997	--	--	--	--	2.1
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	3.6
	Jan/Feb 1998	--	--	--	--	0.4
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	1.3
	Oct/Nov 1998	--	--	--	--	2.4
	Feb/Mar 1999	--	--	--	--	0.8
	May/Jun 1999	--	--	--	--	0.9
	Aug 1999	(2)	(2)	--	--	2.8
	Nov/Dec 1999	(2)	(2)	--	--	0.5
	Mar/Apr 2000	(2)	(2)	--	--	0.4
	Jul/Aug 2000	--	--	--	--	0.03
Screen 3	Aug/Sep 1996	--	--	NS	NS	1.7
	Oct/Nov 1996	--	--	--	--	1.6
	Feb/Mar 1997	--	--	--	--	1.9
	Jun/Jul 1997	--	--	--	--	2.1
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	0.7
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	0.009	--	--	0.1
	May/Jun 1999	--	--	--	--	1.0
	Aug 1999	(2)	(2)	--	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	0.3
	Mar/Apr 2000	(2)	(2)	--	--	0.3
	Jul/Aug 2000	--	--	--	--	0.1
Screen 4	Aug/Sep 1996	--	--	NS	NS	1.0
	Oct/Nov 1996	--	--	--	--	1.3
	Feb/Mar 1997	--	--	--	--	3.3
	Jun/Jul 1997	--	--	--	--	1.3
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	0.6
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	2.1
	Oct/Nov 1998	--	--	--	--	2.6
	Feb/Mar 1999	--	--	--	--	0.8
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	--	--	0.3
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	--	--	1.1
	Jul/Aug 2000	--	--	--	--	1.6

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 5	Aug/Sep 1996	--	--	NS	NS	1.8
	Oct/Nov 1996	--	--	NS	--	1.3
	Feb/Mar 1997	--	0.004	--	--	1.6
	Jun/Jul 1997	0.006	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.5
	Jan/Feb 1998	--	--	--	--	0.1
	Apr/May 1998	--	--	--	--	1.1
	Jul/Aug 1998	--	--	--	--	3.3
	Oct/Nov 1998	--	--	--	--	1.6
	Feb/Mar 1999	--	--	--	--	1.0
	May/Jun 1999	--	--	--	--	2.7
	Aug 1999	(2)	(2)	--	--	1.7
	Nov/Dec 1999	(2)	(2)	--	--	1.1
	Mar/Apr 2000	(2)	(2)	--	--	0.4
	Jul/Aug 2000	--	--	--	--	2.3
<b>MW-21</b>						
Screen 1	Aug/Sep 1996	--	--	NS	NS	0.9
	Oct/Nov 1996	(5)	(5)	(5)	(5)	(5)
	Feb/Mar 1997	--	--	--	--	1.1
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	(5)	(5)	(5)	(5)	(5)
	Jan/Feb 1998	--	--	--	--	0.8
	Apr/May 1998	--	--	--	--	0.7
	Jul/Aug 1998	--	--	--	--	3.4
	Oct/Nov 1998	--	--	--	--	2.2
	Feb/Mar 1999	--	--	--	--	0.3
	May/Jun 1999	--	--	--	--	2.8
	Aug 1999	(2)	(2)	(2)	(2)	1.1
	Nov/Dec 1999	(2)	(2)	--	--	0.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(8)
	Jul/Aug 2000	--	--	--	--	0.2
Screen 2	Aug/Sep 1996	--	--	NS	NS	2.1
	Oct/Nov 1996	--	--	--	--	1.2
	Feb/Mar 1997	--	--	--	--	3.9
	Jun/Jul 1997	--	--	--	--	1.7
	Sep/Oct 1997	--	--	--	--	0.8
	Jan/Feb 1998	--	--	--	--	0.6
	Apr/May 1998	--	--	--	--	1.8
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	3.5
	Feb/Mar 1999	--	--	--	--	0.04
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	(2)	(2)	1.6
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(8)
	Jul/Aug 2000	--	--	--	--	0.8

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 3	Aug/Sep 1996	--	--	NS	NS	4.6
	Oct/Nov 1996	--	--	--	--	4.9
	Feb/Mar 1997	--	0.003	--	--	4.6
	Jun/Jul 1997	--	--	--	--	1.4
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	0.003	--	--	4.8
	Apr/May 1998	--	--	--	--	4.1
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.8
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	(2)	(2)	1.9
	Nov/Dec 1999	(2)	(2)	--	--	2.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(8)
	Jul/Aug 2000	--	--	--	--	1.2
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.5
	Oct/Nov 1996	--	--	--	--	3.3
	Feb/Mar 1997	--	0.004	--	--	4.4
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	4.5
	Jan/Feb 1998	--	--	--	--	1.1
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	2.4
	Oct/Nov 1998	--	--	--	--	4.4
	Feb/Mar 1999	--	--	--	--	13.1
	May/Jun 1999	--	--	--	--	7.6
	Aug 1999	(2)	(2)	(2)	(2)	0.5
	Nov/Dec 1999	(2)	(2)	--	--	2.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(8)
	Jul/Aug 2000	--	--	--	--	6.2
Screen 5	Aug/Sep 1996	--	--	NS	NS	4.9
	Oct/Nov 1996	--	--	--	--	5.0
	Feb/Mar 1997	--	--	--	--	28
	Jun/Jul 1997	--	--	--	--	26
	Sep/Oct 1997	--	--	--	--	12
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.2
	Oct/Nov 1998	--	--	--	--	14.0
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	--	--	3.3
	Aug 1999	(2)	(2)	(2)	(2)	1.9
	Nov/Dec 1999	(2)	(2)	--	--	4.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(8)
	Jul/Aug 2000	--	--	--	--	3.0

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
<b><i>MW-22<sup>(7)</sup></i></b>						
Screen 1	Sep/Oct 1997	--	--	--	--	34
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.0
	Feb/Mar 1999	--	--	--	--	20.1
	May/Jun 1999	--	--	--	--	37.6
	Aug 1999	(2)	(2)	--	--	4.8
	Nov/Dec 1999	(2)	(2)	--	--	8.1
	Mar/Apr 2000	(2)	(2)	--	--	15.5
	Jul/Aug 2000	--	--	--	--	15.8
Screen 2	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.2
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	4.4
	Oct/Nov 1998	--	--	--	--	4.1
	Feb/Mar 1999	--	--	--	--	8.1
	May/Jun 1999	--	--	--	--	4.5
	Aug 1999	(2)	(2)	--	--	8.5
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	--	--	0.8
	Jul/Aug 2000	--	--	--	--	0.6
Screen 3	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	3.8
	Apr/May 1998	--	--	--	--	2.9
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	3.5
	Feb/Mar 1999	--	--	--	--	5.2
	May/Jun 1999	--	--	--	--	3.7
	Aug 1999	(2)	(2)	(2)	(2)	5.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	6.0
	Jul/Aug 2000	--	--	--	--	0.5
Screen 4	Sep/Oct 1997	--	--	--	--	2.8
	Jan/Feb 1998	--	--	--	--	3.7
	Apr/May 1998	--	--	--	--	3.0
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	5.1
	May/Jun 1999	--	--	--	--	4.1
	Aug 1999	(2)	(2)	(2)	(2)	2.8
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.4
	Jul/Aug 2000	--	--	--	--	0.8
Screen 5	Sep/Oct 1997	--	--	--	--	4.4
	Jan/Feb 1998	--	--	--	--	2.8
	Apr/May 1998	--	--	--	--	2.9

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jul/Aug 1998	--	--	--	--	2.3
	Oct/Nov 1998	--	--	--	--	3.3
	Feb/Mar 1999	--	--	--	--	2.6
	May/Jun 1999	--	--	--	--	4.7
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	0.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.4
<b>MW-23<sup>(7)</sup></b>						
Screen 1	Sep/Oct 1997	--	--	--	--	3.4
	Jan/Feb 1998	--	--	--	--	4.1
	Apr/May 1998	--	--	--	--	4.5
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	6.3
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	7.0
	Aug 1999	(2)	(2)	--	--	9.4
	Nov/Dec 1999	(2)	(2)	--	--	35.0
	Mar/Apr 2000	(2)	(2)	--	--	44.2
	Jul/Aug 2000	--	--	--	--	13.1
Screen 2	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	3.4
	Oct/Nov 1998	--	--	--	--	4.1
	Feb/Mar 1999	--	--	--	--	2.5
	May/Jun 1999	--	--	--	--	7.3
	Aug 1999	(2)	(2)	--	--	1.5
	Nov/Dec 1999	(2)	(2)	--	--	1.8
	Mar/Apr 2000	(2)	(2)	--	--	1.9
	Jul/Aug 2000	--	--	--	--	1.7
Screen 3	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	4.6
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.7
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	--	--	7.5
	Aug 1999	(2)	(2)	--	--	13.1
	Nov/Dec 1999	(2)	(2)	--	--	3.0
	Mar/Apr 2000	(2)	(2)	--	--	1.6
	Jul/Aug 2000	--	--	--	--	2.7
Screen 4	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	5.1

TABLE 3-6

**SUMMARY OF METALS DETECTED DURING THE  
LONG-TERM QUARTERLY SAMPLING PROGRAM,  
JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 5	May/Jun 1999	--	--	--	--	2.0
	Aug 1999	(2)	(2)	--	--	4.2
	Nov/Dec 1999	(2)	(2)	--	--	3.6
	Mar/Apr 2000	(2)	(2)	--	--	1.0
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 1997	--	--	--	--	1.8
	Jan/Feb 1998	--	--	--	--	1.8
	Apr/May 1998	--	--	--	--	2.4
	Jul/Aug 1998	--	--	--	--	1.7
	Oct/Nov 1998	--	--	--	--	2.5
<i>MW-24<sup>(7)</sup></i>	Feb/Mar 1999	--	--	--	--	3.2
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	(2)	(2)	1.7
	Nov/Dec 1999	(2)	(2)	--	--	1.7
	Mar/Apr 2000	(2)	(2)	(2)	(2)	3.0
	Jul/Aug 2000	--	--	--	--	1.4
	Sep/Oct 1997	--	--	--	--	1.6
	Jan/Feb 1998	--	--	--	--	3.8
	Apr/May 1998	--	--	--	--	2.7
	Jul/Aug 1998	--	--	--	--	4.9
Screen 2	Oct/Nov 1998	--	--	--	--	3.8
	Feb/Mar 1999	--	--	--	--	7.6
	May/Jun 1999	--	--	--	--	4.3
	Aug 1999	(2)	(2)	--	--	9.7
	Nov/Dec 1999	(2)	(2)	--	--	1.1
	Mar/Apr 2000	(2)	(2)	--	--	3.8
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 1997	--	--	--	--	4.4
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.5
Screen 3	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	8.3
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	5.4
	Aug 1999	(2)	(2)	--	--	33.8
	Nov/Dec 1999	(2)	(2)	--	--	23.8
	Mar/Apr 2000	(2)	(2)	--	--	19.2
	Jul/Aug 2000	--	--	--	--	14.1
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	0.006	--	--	--	4.7
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	7.8
	Feb/Mar 1999	0.006	--	0.013	--	34.8
	May/Jun 1999	--	--	--	--	27.2
	Aug 1999	(2)	(2)	--	--	25.2
	Nov/Dec 1999	(2)	(2)	--	--	45.5

**TABLE 3-6**  
**SUMMARY OF METALS DETECTED DURING THE**  
**LONG-TERM QUARTERLY SAMPLING PROGRAM,**  
**JET PROPULSION LABORATORY**

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 4	Mar/Apr 2000	(2)	(2)	--	--	18.9
	Jul/Aug 2000	--	--	--	--	6.9
	Sep/Oct 1997	--	--	--	--	4.0
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.3
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	8.3
	Feb/Mar 1999	--	0.003	--	--	6.1
	May/Jun 1999	--	--	--	--	10.0
	Aug 1999	(2)	(2)	--	--	10.5
Screen 5	Nov/Dec 1999	(2)	(2)	--	--	14.7
	Mar/Apr 2000	(2)	(2)	--	--	9.5
	Jul/Aug 2000	--	--	--	--	4.9
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	4.0
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	8.0
	Feb/Mar 1999	--	--	--	--	5.7
	May/Jun 1999	--	--	--	--	5.8
Aug 1999		(2)	(2)	(2)	(2)	(2)
Nov/Dec 1999		(2)	(2)	--	--	12.0
Mar/Apr 2000		(2)	(2)	(2)	(2)	(2)
Jul/Aug 2000		--	--	--	--	16.1
Practical Quantitation Limit		0.005	0.002	0.010	0.005	
Calif. Maximum Contaminant Level		0.05	(9)	0.05	NE	
EPA Maximum Contaminant Level		0.05	(9)	0.10	NE	

--: Not detected.

NS: Not sampled.

NE: Not established.

- 1: Probable lab error. MW-1 is always upgradient of the site, and Cr contamination is not believed to be present upgradient of the site.
- 2: Monitoring point not sampled for the particular constituent due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.
- 3: Believed to be a laboratory error.
- 4: Result from original analysis; duplicate sample was non-detect.
- 5: Not sampled, no water over screen.
- 6: Not sampled due to mechanical failure.
- 7: Wells installed June-August 1997.
- 8: Turbidity not measured due to equipment failure.
- 9: Treatment technique and public notification triggered at Action Level of 0.015 mg/L.

**TABLE 4-1**  
**SUMMARY OF WATER-CHEMISTRY RESULTS FROM GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**  
 (concentrations in mg/L)

Well Number	ANIONS					CATIONS					Measured Alkalinity	Measured pH
	CL	CO <sub>3</sub>	HCO <sub>3</sub>	NO <sub>3</sub> -N	SO <sub>4</sub>	Na	Mg	K	Ca	Fe		
<b>MW-1</b>	21.4	1.21	234	1.50	48.0	29	19	3.3	60	--	192	7.9
<b>MW-3</b>												
Screen 1	7.55	1.56	191	0.64	38.8	21	17	2.9	39	1.10	157	8.1
Screen 2	10.6	1.27	195	0.82	27.6	20	16	2.5	42	0.23	160	8.0
Screen 3	19.3	2.57	198	--	36.9	44	15	3.1	30	0.21	163	8.3
Screen 4	10.5	2.99	183	0.33	12.7	47	8.3	1.9	18	0.19	151	8.4
Screen 5	9.56	16.4	159	--	5.29	71	0.59	--	3.1	1.60	136	9.2
<b>MW-4</b>												
Screen 1	9.44	0.42	202	1.04	40.5	22	16	2.8	47	0.60	166	7.5
Screen 2	69.4	0.27	211	7.38	82.5	29	29	2.5	82	2.00	173	7.3
Screen 3	21.5	1.98	192	0.36	9.08	35	14	1.9	26	0.59	158	8.2
Screen 4	17.8	1.02	198	4.04	8.69	42	11	2.0	32	0.46	163	7.9
Screen 5	8.62	1.65	202	1.39	16.3	37	9.6	2.2	34	--	166	8.1
<b>MW-5</b>	8.20	0.18	139	2.98	24.5	17	14	3.1	44	0.14	114	7.3
<b>MW-6</b>	91.0	0.25	193	10.1	101	31	32	2.3	99	0.85	158	7.3
<b>MW-7</b>	20.9	0.79	153	5.86	44.0	19	16	2.7	51	1.80	126	7.9
<b>MW-8</b>	16.0	0.57	174	3.29	36.3	16	16	2.5	49	0.40	143	7.7
<b>MW-9</b>	18.1	0.70	214	0.21	47.2	22	17	3.4	56	0.11	176	7.7
<b>MW-10</b>	26.5	0.49	191	6.55	62.6	17	20	2.6	63	0.12	157	7.6
<b>MW-11</b>												
Screen 1	19.5	1.60	246	1.17	45.5	26	21	3.1	60	--	202	8.0
Screen 2	14.9	1.71	209	0.43	36.8	23	18	2.9	48	0.11	172	8.1
Screen 3	12.5	1.67	204	0.19	27.5	24	14	2.0	45	0.22	168	8.1
Screen 4	11.0	2.33	180	--	18.2	25	14	2.3	30	0.18	148	8.3
Screen 5	11.9	1.57	152	--	19.3	49	2.3	1.1	23	--	125	8.2
<b>MW-12</b>												
Screen 1	11.3	1.18	228	0.57	38.8	23	19	3.3	48	2.10	187	7.9
Screen 2	13.6	0.57	222	1.83	37.6	25	18	2.9	53	0.14	182	7.6
Screen 3	16.8	1.20	233	1.76	38.9	26	16	2.9	59	--	191	7.9
Screen 4	13.2	1.45	223	1.44	29.4	24	14	2.3	53	--	183	8.0
Screen 5	13.8	1.38	212	1.36	20.4	34	11	2.1	42	--	174	8.0
<b>MW-13</b>	27.9	0.46	179	9.97	63.0	27	21	2.9	63	0.21	147	7.6

**TABLE 4-1**  
**SUMMARY OF WATER-CHEMISTRY RESULTS FROM GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**  
 (concentrations in mg/L)

Well Number	ANIONS					CATIONS					Measured Alkalinity	Measured pH
	CL	CO <sub>3</sub>	HCO <sub>3</sub>	NO <sub>3</sub> -N	SO <sub>4</sub>	Na	Mg	K	Ca	Fe		
<b><i>MW-14</i></b>												
Screen 1	143	0.22	209	16.7	255	45	52	2.3	150	0.45	171	7.2
Screen 2	123	0.33	255	16.4	194	34	51	2.2	140	0.19	209	7.3
Screen 3	101	1.61	247	13.6	137	40	47	2.8	110	--	203	8.0
Screen 4	40.9	1.54	188	11.2	31.9	30	21	2.0	58	--	155	8.1
Screen 5	8.66	4.14	160	0.13	16.2	34	13	2.0	17	0.13	133	8.6
<b><i>MW-15</i></b>	20.7	1.41	217	1.65	44.4	29	18	3.2	56	--	178	8.0
<b><i>MW-16</i></b>	22.1	0.41	127	23.8	37.8	25	20	2.6	55	--	104	7.7
<b><i>MW-17</i></b>												
Screen 1	7.83	0.37	178	1.23	35.8	16	15	2.5	44	--	146	7.5
Screen 2	5.28	1.97	152	0.72	21.5	16	15	2.6	27	0.19	125	8.3
Screen 3	10.1	1.38	213	1.02	32.6	21	18	2.2	46	0.11	175	8.0
Screen 4	9.77	1.39	214	1.55	28.3	31	12	1.8	42	0.22	176	8.0
Screen 5	9.65	1.81	221	1.56	28.3	32	13	1.9	42	0.45	182	8.1
<b><i>MW-18</i></b>												
Screen 1	16.1	0.43	167	2.35	23.8	14	14	2.5	41	--	137	7.6
Screen 2	9.77	0.86	209	0.83	33.4	18	16	2.8	47	0.11	172	7.8
Screen 3	13.5	2.41	234	0.98	38.0	21	18	3.0	55	--	193	8.2
Screen 4	9.67	2.11	205	1.20	25.0	31	10	1.2	40	--	169	8.2
Screen 5	9.48	25.0	153	--	4.79	54	4.3	1.5	6.6	0.17	134	9.4
<b><i>MW-19</i></b>												
Screen 1	10.9	0.49	190	0.96	30.4	14	15	2.6	46	0.16	156	7.6
Screen 2	54.1	0.20	246	7.24	84.2	20	32	2.3	85	0.11	202	7.1
Screen 3	106	0.37	288	10.1	110	33	41	2.9	110	1.20	236	7.3
Screen 4	15.2	0.83	202	1.89	36.8	22	17	1.8	46	0.11	166	7.8
Screen 5	79.0	1.12	274	8.94	76.9	32	34	2.6	94	--	225	7.8
<b><i>MW-20</i></b>												
Screen 1	59.8	0.58	178	17.9	130	24	33	3.6	97	--	146	7.7
Screen 2	11.0	0.96	185	2.07	31.9	16	16	2.0	47	--	152	7.9
Screen 3	33.6	1.77	273	2.93	27.3	60	15	2.3	44	--	224	8.0
Screen 4	10.0	4.04	156	--	15.7	58	3.4	--	12	0.16	129	8.6
Screen 5	8.54	6.19	190	--	23.8	67	3.3	1.6	16	--	158	8.7

**TABLE 4-1**  
**SUMMARY OF WATER-CHEMISTRY RESULTS FROM GROUNDWATER SAMPLES**  
**COLLECTED FROM JPL MONITORING WELLS,**  
**JULY-AUGUST 2000**  
 (concentrations in mg/L)

Well Number	ANIONS					CATIONS					Measured	Measured
	CL	CO <sub>3</sub>	HCO <sub>3</sub>	NO <sub>3</sub> -N	SO <sub>4</sub>	Na	Mg	K	Ca	Fe	Alkalinity	pH
<b><i>MW-21</i></b>												
Screen 1	81.0	0.12	189	12.1	146	34	30	2.4	100	--	155	7.0
Screen 2	132	1.17	285	4.69	142	56	43	3.3	110	--	234	7.8
Screen 3	103	1.04	319	10.1	107	41	40	3.1	120	--	262	7.7
Screen 4	65.2	0.65	250	9.36	71.1	29	28	2.5	89	--	205	7.6
Screen 5	70.2	1.62	249	9.55	93.4	35	32	2.8	93	0.35	205	8.0
<b><i>MW-22</i></b>												
Screen 1	122	0.35	272	11.6	165	33	49	2.7	130	1.50	223	7.3
Screen 2	45.9	1.58	243	7.93	43.9	32	25	2.2	62	--	200	8.0
Screen 3	33.2	1.51	185	9.17	26.4	36	16	2.0	48	--	152	8.1
Screen 4	11.7	1.09	168	4.62	7.41	28	10	1.6	33	0.14	138	8.0
Screen 5	7.79	6.76	131	--	46.2	78	1.3	--	6.2	0.11	110	8.9
<b><i>MW-23</i></b>												
Screen 1	101	0.26	251	13.1	145	33	44	2.5	120	0.92	206	7.2
Screen 2	100	0.31	240	13.4	139	36	43	2.6	120	0.28	197	7.3
Screen 3	24.8	0.89	172	9.16	15.6	28	15	1.7	44	0.39	141	7.9
Screen 4	14.6	1.09	167	6.44	7.06	28	12	1.7	33	--	137	8.0
Screen 5	14.1	37.7	231	--	19.7	120	--	2.0	4.7	0.12	202	9.4
<b><i>MW-24</i></b>												
Screen 1	15.4	0.58	179	3.83	36.7	18	17	2.6	50	0.11	147	7.7
Screen 2	28.6	3.06	149	2.76	15.1	42	11	2.9	23	0.85	123	8.5
Screen 3	29.4	1.33	204	2.16	21.3	41	14	2.2	39	0.50	168	8.0
Screen 4	12.8	4.42	171	3.10	7.59	43	11	2.2	19	0.29	142	8.6
Screen 5	9.03	1.66	203	1.25	19.9	39	9.0	1.8	34	0.39	167	8.1
Detection Limit	1	0.001	0.001	0.1	2	1	0.1	1	1	0.1	1	0.001

TABLE 4-2

**GENERAL WATER TYPES OBSERVED DURING THE  
JULY-AUGUST 2000 SAMPLING EVENT  
(AS INTERPRETED WITH STIFF DIAGRAMS)**

Well/Screen Number	Water Type <sup>1</sup>	Well/Screen Number	Water Type	Well/Screen Number	Water Type
<b>MW-1</b>	Type 1	<b>MW-14</b>		<b>MW-21</b>	
<b>MW-3</b>		Screen 1	Type 3	Screen 1	Type 3,1
Screen 1	Type 1	Screen 2	Type 3	Screen 2	Type 3
Screen 2	Type 1	Screen 3	Type 3,1	Screen 3	Type 3
Screen 3	Type 2	Screen 4	Type 1,2	Screen 4	Type 3,1
Screen 4	Type 2	Screen 5	Type 2	Screen 5	Type 3,1
Screen 5	Type 2	<b>MW-15</b>	Type 1	<b>MW-22</b>	
<b>MW-4</b>		<b>MW-16</b>	Type 1	Screen 1	Type 3
Screen 1	Type 1	<b>MW-17</b>		Screen 2	Type 1,3
Screen 2	Type 1,3	Screen 1	Type 1	Screen 3	Type 1,2,3
Screen 3	Type 2	Screen 2	Type 1	Screen 4	Type 1,2
Screen 4	Type 2	Screen 3	Type 1	Screen 5	Type 2
Screen 5	Type 2,1	Screen 4	Type 1,2	<b>MW-23</b>	
<b>MW-5</b>	Type 1	Screen 5	Type 1,2	Screen 1	Type 3
<b>MW-6</b>	Type 1,3	<b>MW-18</b>		Screen 2	Type 3
<b>MW-7</b>	Type 1	Screen 1	Type 1	Screen 3	Type 1,2,3
<b>MW-8</b>	Type 1	Screen 2	Type 1	Screen 4	Type 1,2
<b>MW-9</b>	Type 1	Screen 3	Type 1	Screen 5	Type 2
<b>MW-10</b>	Type 1	Screen 4	Type 1,2	<b>MW-24</b>	
<b>MW-11</b>		Screen 5	Type 2	Screen 1	Type 1
Screen 1	Type 1	<b>MW-19</b>		Screen 2	Type 2
Screen 2	Type 1	Screen 1	Type 1	Screen 3	Type 2,1
Screen 3	Type 1	Screen 2	Type 3,1	Screen 4	Type 2
Screen 4	Type 1	Screen 3	Type 3	Screen 5	Type 2,1
Screen 5	Type 2	Screen 4	Type 1		
<b>MW-12</b>		Screen 5	Type 3		
Screen 1	Type 1	<b>MW-20</b>			
Screen 2	Type 1	Screen 1	Type 1,3		
Screen 3	Type 1	Screen 2	Type 1		
Screen 4	Type 1	Screen 3	Type 2,1		
Screen 5	Type 1,2	Screen 4	Type 2		
<b>MW-13</b>	Type 1	Screen 5	Type 2		

1: General Water Types:

- Type 1: Calcium-bicarbonate groundwater
- Type 2: Sodium-bicarbonate groundwater
- Type 3: Calcium-bicarbonate/chloride/sulfate groundwater

**Note:** Water type denoted by more than one number (i.e., 1/2) represent blends of the listed basic types, with the more dominant type listed first.

**TABLE 4-3**

**SUMMARY OF QUALITY CONTROL ANALYSIS OF WATER-CHEMISTRY DATA FROM  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(ion concentrations are meq/L; TDS concentrations are mg/L)

Well Number	Total Anion	Total Cations	Total Ions	Charge Balance Error <sup>(1)</sup>	Measured TDS	Calculated TDS	Measured TDS/Calculated TDS <sup>(2)</sup>
<b>MW-1</b>	5.03	5.24	10.3	2.0	290	298	1.0
<b>MW-3</b>							
Screen 1	4.21	4.34	8.55	1.5	230	223	1.0
Screen 2	4.13	4.35	8.48	2.6	220	217	1.0
Screen 3	4.57	4.73	9.30	1.7	260	248	1.0
Screen 4	3.60	3.68	7.28	1.1	190	192	1.0
Screen 5	3.10	3.29	6.39	3.0	190	186	1.0
<b>MW-4</b>							
Screen 1	4.50	4.70	9.20	2.2	270	239	1.1
Screen 2	7.66	7.81	15.5	1.0	490	408	1.2
Screen 3	3.98	4.02	8.00	0.5	210	205	1.0
Screen 4	4.23	4.38	8.61	1.7	240	216	1.1
Screen 5	4.00	4.16	8.16	2.0	230	210	1.1
<b>MW-5</b>	3.23	4.17	7.40	12.7	220	182	1.2
<b>MW-6</b>	8.55	8.99	17.5	2.5	540	462	1.2
<b>MW-7</b>	4.44	4.76	9.20	3.5	270	237	1.1
<b>MW-8</b>	4.30	4.53	8.83	2.6	290	226	1.3
<b>MW-9</b>	5.03	5.24	10.3	2.0	290	270	1.1
<b>MW-10</b>	5.66	5.60	11.3	0.5	360	293	1.2
<b>MW-11</b>							
Screen 1	5.62	5.94	11.6	2.8	300	299	1.0
Screen 2	4.66	4.96	9.62	3.1	280	249	1.1
Screen 3	4.30	4.50	8.80	2.3	240	227	1.1
Screen 4	3.65	3.80	7.45	2.0	210	192	1.1
Screen 5	3.24	3.50	6.74	3.9	190	183	1.0
<b>MW-12</b>							
Screen 1	4.91	5.05	9.96	1.4	270	259	1.0
Screen 2	4.94	5.29	10.2	3.4	290	262	1.1
Screen 3	5.23	5.47	10.7	2.2	300	277	1.1
Screen 4	4.75	4.90	9.65	1.6	270	248	1.1
Screen 5	4.39	4.54	8.93	1.7	250	230	1.1
<b>MW-13</b>	5.75	6.13	11.9	3.2	370	303	1.2

**TABLE 4-3**

**SUMMARY OF QUALITY CONTROL ANALYSIS OF WATER-CHEMISTRY DATA FROM  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(ion concentrations are meq/L; TDS concentrations are mg/L)

Well Number	Total Anion	Total Cations	Total Ions	Charge Balance Error <sup>(1)</sup>	Measured TDS	Calculated TDS	Measured TDS/Calculated TDS <sup>(2)</sup>
<b><i>MW-14</i></b>							
Screen 1	14.0	13.8	27.8	0.7	960	767	1.3
Screen 2	12.9	12.7	25.6	0.8	750	687	1.1
Screen 3	10.7	11.2	21.9	2.3	710	574	1.2
Screen 4	5.72	5.98	11.7	2.2	360	289	1.2
Screen 5	3.25	3.45	6.70	3.0	200	174	1.1
<b><i>MW-15</i></b>							
	5.19	5.62	10.8	4.0	300	281	1.1
<b><i>MW-16</i></b>							
	5.19	5.55	10.7	3.4	360	249	1.4
<b><i>MW-17</i></b>							
Screen 1	3.97	4.19	8.16	2.7	200	210	1.0
Screen 2	3.15	3.35	6.50	3.1	160	165	1.0
Screen 3	4.54	4.75	9.29	2.3	240	237	1.0
Screen 4	4.50	4.48	8.98	0.2	230	233	1.0
Screen 5	4.61	4.61	9.22	0.0	250	239	1.0
<b><i>MW-18</i></b>							
Screen 1	3.86	3.87	7.73	0.1	240	196	1.2
Screen 2	4.47	4.52	8.99	0.6	240	232	1.0
Screen 3	5.10	5.22	10.3	1.2	280	267	1.0
Screen 4	4.26	4.20	8.46	0.7	230	221	1.0
Screen 5	3.05	3.07	6.12	0.3	160	181	0.9
<b><i>MW-19</i></b>							
Screen 1	4.13	4.21	8.34	1.0	250	214	1.2
Screen 2	7.84	7.81	15.7	0.2	470	406	1.2
Screen 3	10.7	10.4	21.1	1.4	650	556	1.2
Screen 4	4.65	4.70	9.35	0.5	270	241	1.1
Screen 5	8.97	8.96	17.9	0.1	500	463	1.1
<b><i>MW-20</i></b>							
Screen 1	8.59	8.70	17.3	0.6	590	453	1.3
Screen 2	4.16	4.41	8.57	2.9	240	218	1.1
Screen 3	6.21	6.10	12.3	0.9	310	321	1.0
Screen 4	3.19	3.40	6.59	3.2	190	180	1.1
Screen 5	3.90	4.03	7.93	1.6	220	220	1.0

**TABLE 4-3**

**SUMMARY OF QUALITY CONTROL ANALYSIS OF WATER-CHEMISTRY DATA FROM  
GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS,  
JULY-AUGUST 2000**

(ion concentrations are meq/L; TDS concentrations are mg/L)

Well Number	Total Anion	Total Cations	Total Ions	Charge Balance Error <sup>(1)</sup>	Measured TDS	Calculated TDS	Measured TDS/Calculated TDS <sup>(2)</sup>
<b><i>MW-21</i></b>							
Screen 1	9.29	9.01	18.3	1.5	560	499	1.1
Screen 2	11.7	11.6	23.3	0.4	650	632	1.0
Screen 3	11.1	11.2	22.3	0.4	630	582	1.1
Screen 4	8.09	8.08	16.2	0.1	450	418	1.1
Screen 5	8.71	8.88	17.6	1.0	480	460	1.0
<b><i>MW-22</i></b>							
Screen 1	12.2	12.0	24.2	0.8	750	649	1.2
Screen 2	6.78	6.61	13.4	1.3	350	340	1.0
Screen 3	5.18	5.33	10.5	1.4	270	263	1.0
Screen 4	3.57	3.73	7.30	2.2	190	180	1.1
Screen 5	3.38	3.81	7.19	6.0	190	211	0.9
<b><i>MW-23</i></b>							
Screen 1	10.9	11.1	22.0	0.9	680	583	1.2
Screen 2	10.6	11.2	21.8	2.8	680	573	1.2
Screen 3	4.50	4.70	9.20	2.2	280	224	1.2
Screen 4	3.76	3.90	7.66	1.8	230	186	1.2
Screen 5	4.85	5.50	10.4	6.3	310	312	1.0
<b><i>MW-24</i></b>							
Screen 1	4.41	4.75	9.16	3.7	260	232	1.1
Screen 2	3.78	3.96	7.74	2.3	220	203	1.1
Screen 3	4.79	4.94	9.73	1.5	280	251	1.1
Screen 4	3.58	3.78	7.36	2.7	210	187	1.1
Screen 5	4.10	4.18	8.28	1.0	240	216	1.1

1 Expressed in percent: ideal error range between 0 and 5 percent. Values between 5 and 10 percent considered acceptable for intended use.

2 Ideal values range between 0.8 and 1.2.

**TABLE 5-1**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**July 11, 2000**

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
<b><i>MW-1</i></b>		7/11/2000	32.03	1116.69	1084.66
<b><i>MW-3</i></b>	1 (top)	7/11/2000	122.83	1100.34	977.51
	2	7/11/2000	131.02	1100.34	969.32
	3	7/11/2000	134.83	1100.34	965.51
	4	7/11/2000	211.04	1100.34	889.30
	5	7/11/2000	239.91	1100.34	860.43
<b><i>MW-4</i></b>	1 (top)	7/11/2000	97.51	1082.84	985.33
	2	7/11/2000	110.51	1082.84	972.33
	3	7/11/2000	113.73	1082.84	969.11
	4	7/11/2000	122.78	1082.84	960.06
	5	7/11/2000	197.04	1082.84	885.80
<b><i>MW-5</i></b>		7/11/2000	87.52	1071.62	984.10
<b><i>MW-6</i></b>		7/11/2000	197.91	1188.54	990.63
<b><i>MW-7</i></b>		7/11/2000	225.91	1212.90	986.99
<b><i>MW-8</i></b>		7/11/2000	151.51	1139.55	988.04
<b><i>MW-9</i></b>		7/11/2000	24.76	1106.06	1081.30
<b><i>MW-10</i></b>		7/11/2000	103.47	1087.73	984.26
<b><i>MW-11</i></b>	1 (top)	7/11/2000	118.63	1139.30	1020.67
	2	7/11/2000	154.35	1139.30	984.95
	3	7/11/2000	170.42	1139.30	968.88
	4	7/11/2000	178.13	1139.30	961.17
	5	7/11/2000	237.68	1139.30	901.62
<b><i>MW-12</i></b>	1 (top)	7/11/2000	111.89	1102.14	990.25
	2	7/11/2000	126.67	1102.14	975.47
	3	7/11/2000	130.32	1102.14	971.82
	4	7/11/2000	143.89	1102.14	958.25
	5	7/11/2000	203.99	1102.14	898.15
<b><i>MW-13</i></b>		7/11/2000	196.35	1183.49	987.14

**TABLE 5-1**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**July 11, 2000**

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
<i>MW-14</i>	1 (top)	7/11/2000	181.13	1173.47	992.34
	2	7/11/2000	182.39	1173.47	991.08
	3	7/11/2000	183.03	1173.47	990.44
	4	7/11/2000	183.24	1173.47	990.23
	5	7/11/2000	184.41	1173.47	989.06
<i>MW-15</i>		7/11/2000	37.17	1120.68	1083.51
<i>MW-16</i>		7/11/2000	249.28	1236.29	987.01
<i>MW-17</i>	1 (top)	7/11/2000	214.64	1191.21	976.57
	2	7/11/2000	231.16	1191.21	960.05
	3	7/11/2000	247.97	1191.21	943.24
	4	7/11/2000	296.32	1191.21	894.89
	5	7/11/2000	305.25	1191.21	885.96
<i>MW-18</i>	1 (top)	7/11/2000	254.02	1225.41	971.39
	2	7/11/2000	256.05	1225.41	969.36
	3	7/11/2000	262.80	1225.41	962.61
	4	7/11/2000	294.30	1225.41	931.11
	5	7/11/2000	309.86	1225.41	915.55
<i>MW-19</i>	1 (top)	7/11/2000	174.80	1142.94	968.14
	2	7/11/2000	188.11	1142.94	954.83
	3	7/11/2000	192.88	1142.94	950.06
	4	7/11/2000	291.06	1142.94	851.88
	5	7/11/2000	294.99	1142.94	847.95
<i>MW-20</i>	1 (top)	7/11/2000	212.27	1165.05	952.78
	2	7/11/2000	213.65	1165.05	951.40
	3	7/11/2000	240.20	1165.05	924.85
	4	7/11/2000	245.62	1165.05	919.43
	5	7/11/2000	210.18	1165.05	954.87

**TABLE 5-1**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**July 11, 2000**

Well	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
<b><i>MW-21</i></b>	1 (top)	7/11/2000	72.04	1059.10	987.06
	2	7/11/2000	72.39	1059.10	986.71
	3	7/11/2000	73.16	1059.10	985.94
	4	7/11/2000	74.55	1059.10	984.55
	5	7/11/2000	74.65	1059.10	984.45
<b><i>MW-22</i></b>	1 (top)	7/11/2000	189.38	1176.98	987.60
	2	7/11/2000	193.08	1176.98	983.90
	3	7/11/2000	193.04	1176.98	983.94
	4	7/11/2000	210.89	1176.98	966.09
	5	7/11/2000	221.79	1176.98	955.19
<b><i>MW-23</i></b>	1 (top)	7/11/2000	122.64	1108.84	986.20
	2	7/11/2000	129.02	1108.84	979.82
	3	7/11/2000	129.86	1108.84	978.98
	4	7/11/2000	151.51	1108.84	957.33
	5	7/11/2000	151.92	1108.84	956.92
<b><i>MW-24</i></b>	1 (top)	7/11/2000	213.04	1200.94	987.90
	2	7/11/2000	221.72	1200.94	979.22
	3	7/11/2000	225.11	1200.94	975.83
	4	7/11/2000	249.63	1200.94	951.31
	5	7/11/2000	271.84	1200.94	929.10

**TABLE 5-2**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**August 8, 2000**

Well Number	Screen Number	Date	Depth to Water Measured	Reference (ft msl)	Water Level Elevation (ft msl)
<b><i>MW-1</i></b>		8/8/2000	34.05	1116.69	1082.64
<b><i>MW-3</i></b>	1 (top)	8/8/2000	131.97	1100.34	968.37
	2	8/8/2000	138.78	1100.34	961.56
	3	8/8/2000	142.09	1100.34	958.25
	4	8/8/2000	217.51	1100.34	882.83
	5	8/8/2000	246.53	1100.34	853.81
<b><i>MW-4</i></b>	1 (top)	8/8/2000	107.29	1082.84	975.55
	2	8/8/2000	118.03	1082.84	964.81
	3	8/8/2000	120.75	1082.84	962.09
	4	8/8/2000	129.55	1082.84	953.29
	5	8/8/2000	203.07	1082.84	879.77
<b><i>MW-5</i></b>		8/8/2000	96.68	1071.62	974.94
<b><i>MW-6</i></b>		8/8/2000	204.60	1188.54	983.94
<b><i>MW-7</i></b>		8/8/2000	235.33	1212.90	977.57
<b><i>MW-8</i></b>		8/8/2000	161.05	1139.55	978.50
<b><i>MW-9</i></b>		8/8/2000	26.58	1106.06	1079.48
<b><i>MW-10</i></b>		8/8/2000	111.66	1087.73	976.07
<b><i>MW-11</i></b>	1 (top)	8/8/2000	122.44	1139.30	1016.86
	2	8/8/2000	161.89	1139.30	977.41
	3	8/8/2000	177.42	1139.30	961.88
	4	8/8/2000	184.79	1139.30	954.51
	5	8/8/2000	244.44	1139.30	894.86
<b><i>MW-12</i></b>	1 (top)	8/8/2000	122.17	1102.14	979.97
	2	8/8/2000	134.63	1102.14	967.51
	3	8/8/2000	137.83	1102.14	964.31
	4	8/8/2000	150.61	1102.14	951.53
	5	8/8/2000	210.60	1102.14	891.54
<b><i>MW-13</i></b>		8/8/2000	204.95	1183.49	978.54

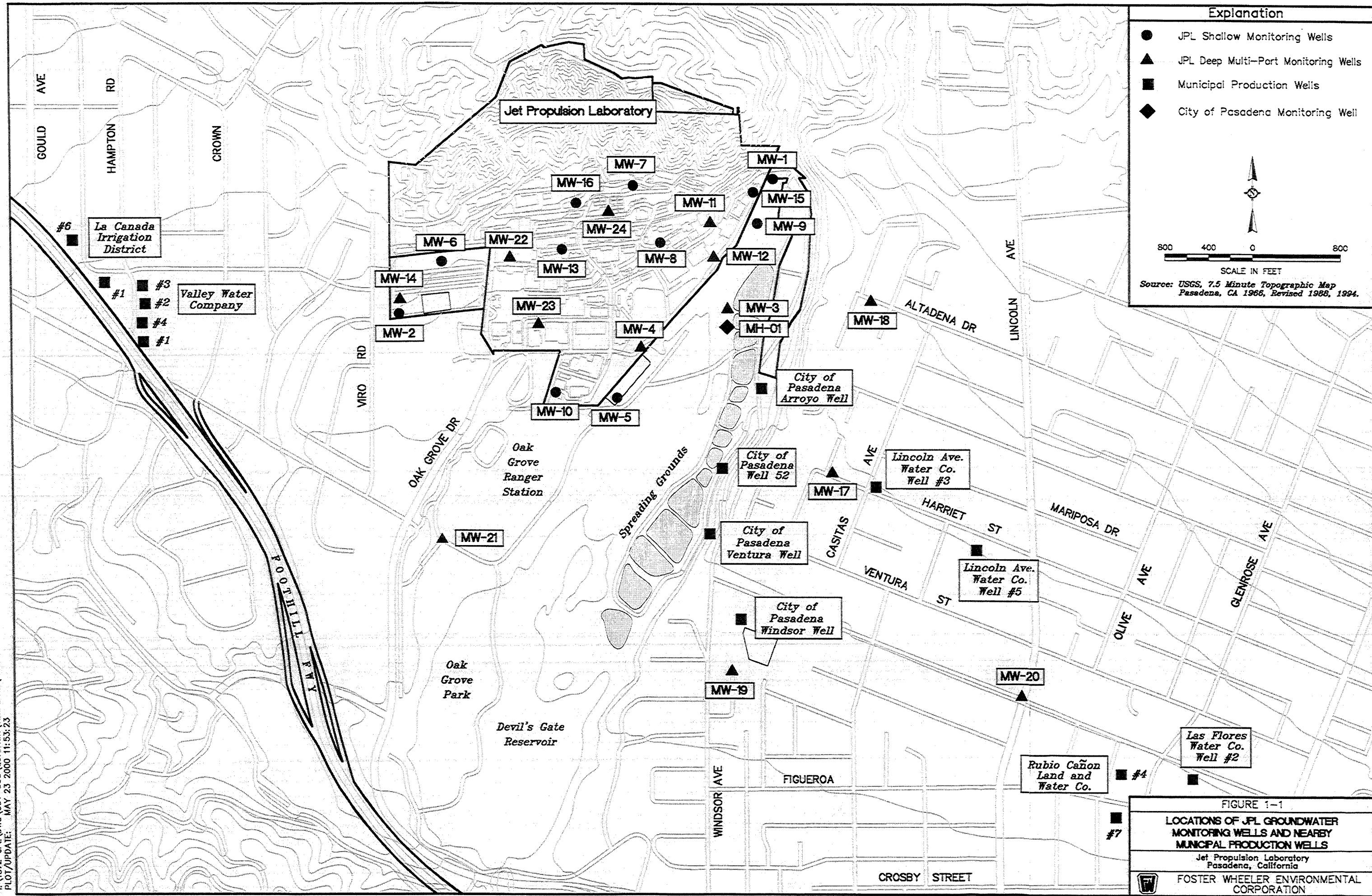
**TABLE 5-2**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**August 8, 2000**

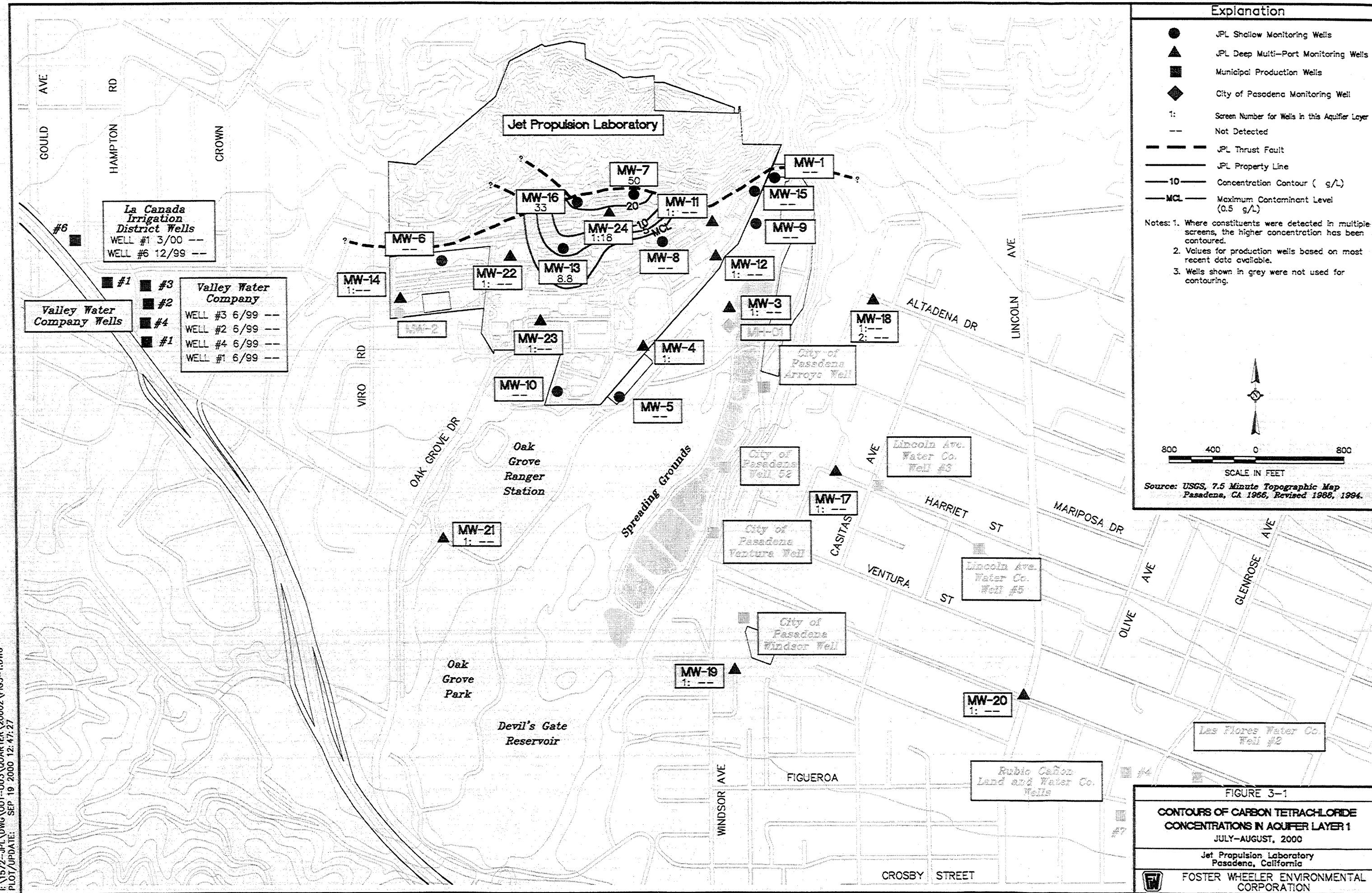
Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
<b>MW-14</b>	1 (top)	8/8/2000	187.80	1173.47	985.67
	2	8/8/2000	189.11	1173.47	984.36
	3	8/8/2000	189.75	1173.47	983.72
	4	8/8/2000	189.92	1173.47	983.55
	5	8/8/2000	190.98	1173.47	982.49
<b>MW-15</b>		8/8/2000	39.13	1120.68	1081.55
<b>MW-16</b>		8/8/2000	258.06	1236.29	978.23
<b>MW-17</b>	1 (top)	8/8/2000	224.05	1191.21	967.16
	2	8/8/2000	238.48	1191.21	952.73
	3	8/8/2000	255.29	1191.21	935.92
	4	8/8/2000	302.80	1191.21	888.41
	5	8/8/2000	311.84	1191.21	879.37
<b>MW-18</b>	1 (top)	8/8/2000	262.63	1225.41	962.78
	2	8/8/2000	264.33	1225.41	961.08
	3	8/8/2000	270.27	1225.41	955.14
	4	8/8/2000	301.44	1225.41	923.97
	5	8/8/2000	317.41	1225.41	908.00
<b>MW-19</b>	1 (top)	8/8/2000	181.47	1142.94	961.47
	2	8/8/2000	193.43	1142.94	949.51
	3	8/8/2000	198.23	1142.94	944.71
	4	8/8/2000	296.48	1142.94	846.46
	5	8/8/2000	300.51	1142.94	842.43
<b>MW-20</b>	1 (top)	8/8/2000	218.11	1165.05	946.94
	2	8/8/2000	219.52	1165.05	945.53
	3	8/8/2000	246.77	1165.05	918.28
	4	8/8/2000	254.18	1165.05	910.87
	5	8/8/2000	215.35	1165.05	949.70

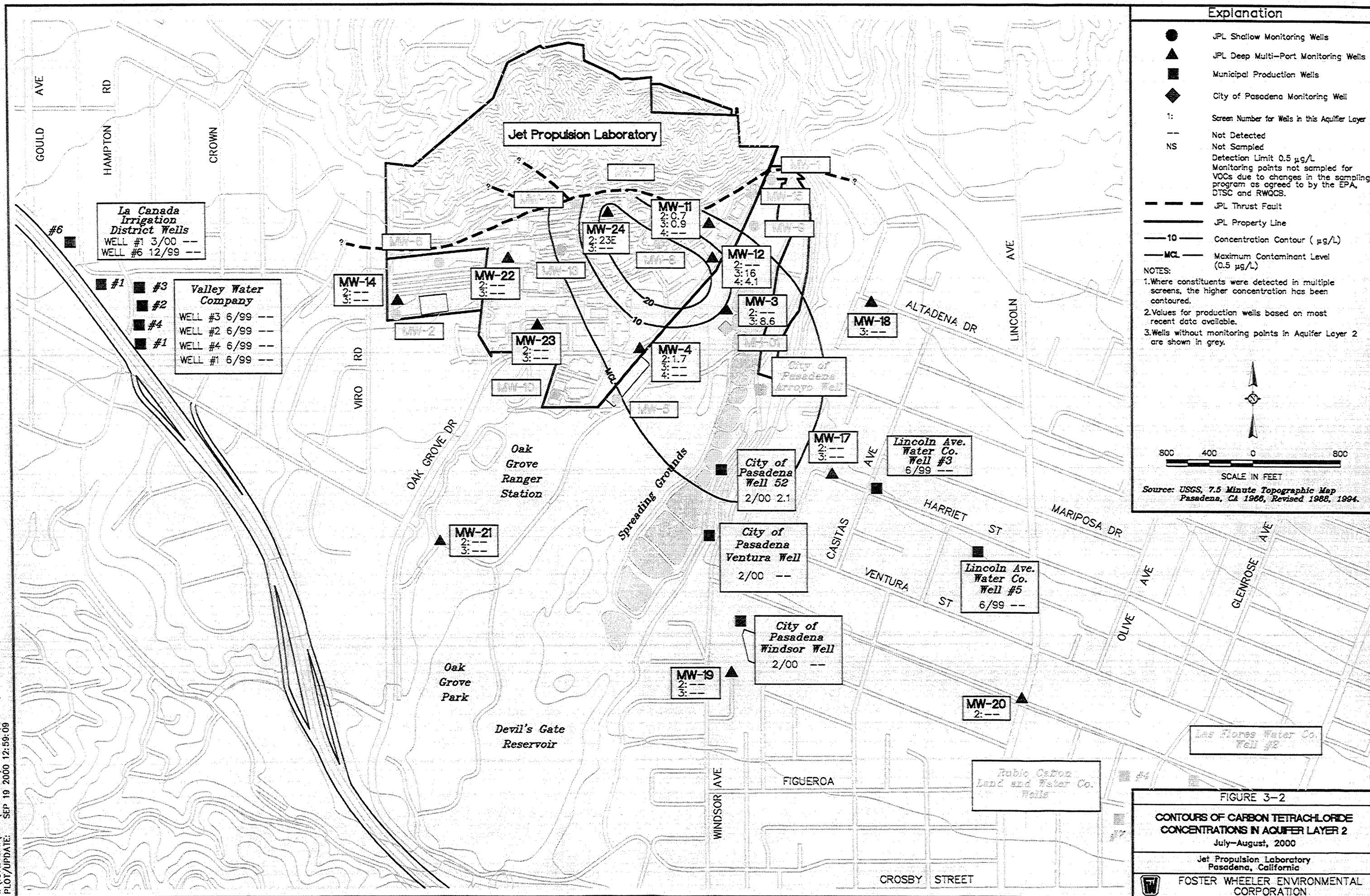
**TABLE 5-2**  
**GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS**  
**August 8, 2000**

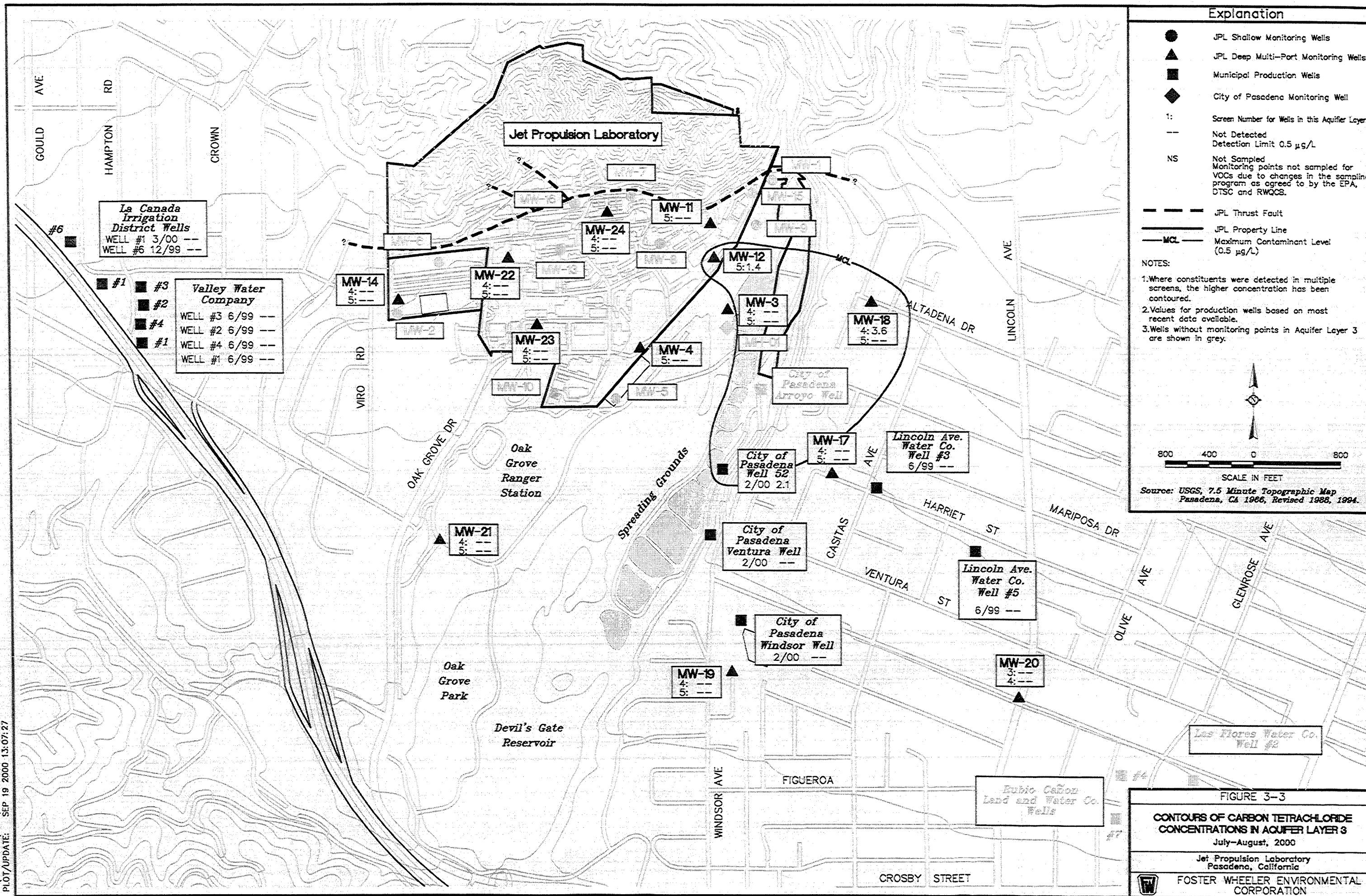
Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
<b><i>MW-21</i></b>	1 (top)	8/8/2000	78.32	1059.10	980.78
	2	8/8/2000	78.86	1059.10	980.24
	3	8/8/2000	79.60	1059.10	979.50
	4	8/8/2000	80.96	1059.10	978.14
	5	8/8/2000	81.05	1059.10	978.05
<b><i>MW-22</i></b>	1 (top)	8/8/2000	197.30	1176.98	979.68
	2	8/8/2000	200.15	1176.98	976.83
	3	8/8/2000	200.03	1176.98	976.95
	4	8/8/2000	217.58	1176.98	959.40
	5	8/8/2000	228.35	1176.98	948.63
<b><i>MW-23</i></b>	1 (top)	8/8/2000	130.96	1108.84	977.88
	2	8/8/2000	136.33	1108.84	972.51
	3	8/8/2000	136.92	1108.84	971.92
	4	8/8/2000	158.42	1108.84	950.42
	5	8/8/2000	158.84	1108.84	950.00
<b><i>MW-24</i></b>	1 (top)	8/8/2000	222.23	1200.94	978.71
	2	8/8/2000	229.44	1200.94	971.50
	3	8/8/2000	232.34	1200.94	968.60
	4	8/8/2000	256.36	1200.94	944.58
	5	8/8/2000	278.45	1200.94	922.49

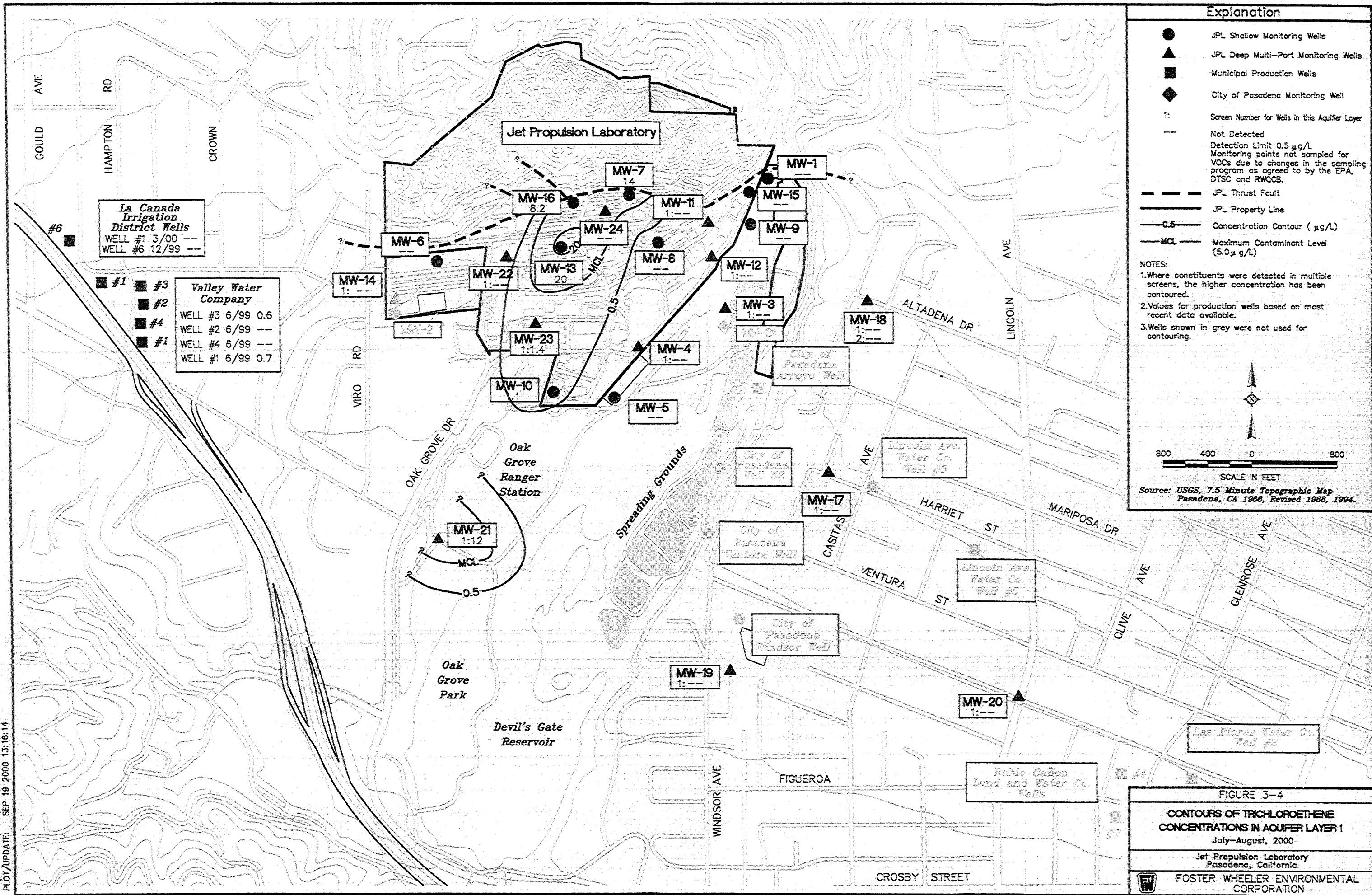
## **FIGURES**

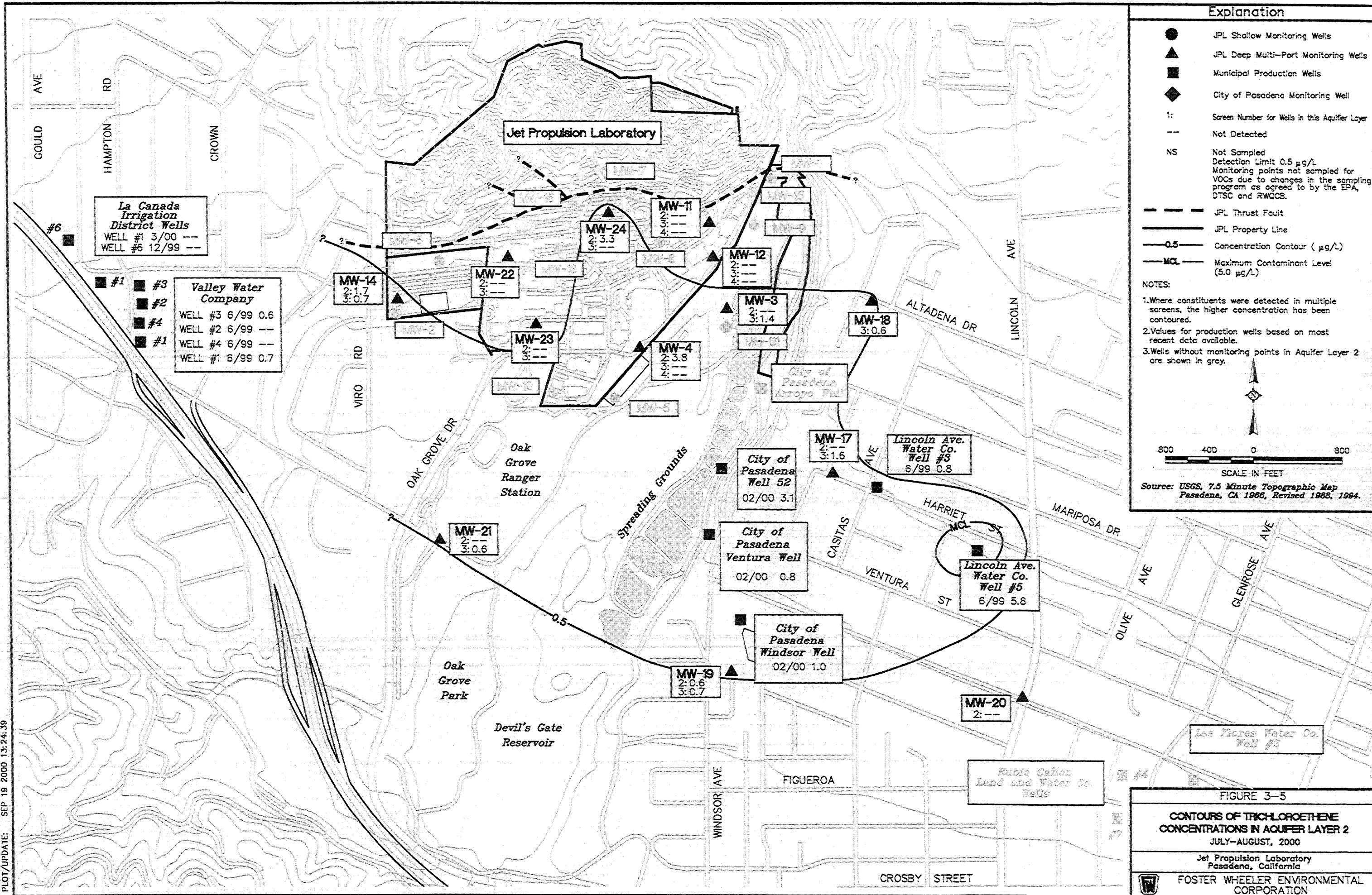


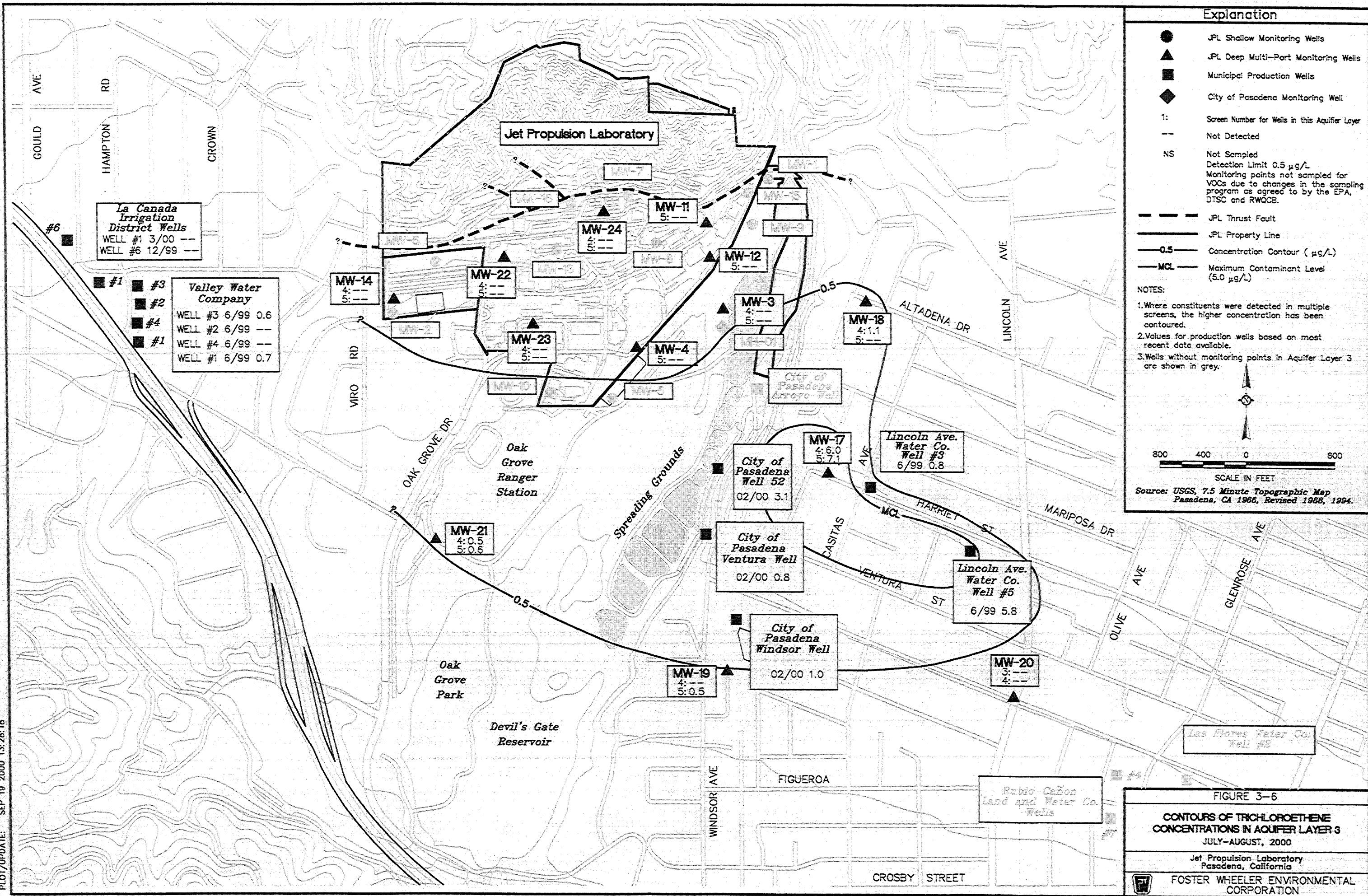


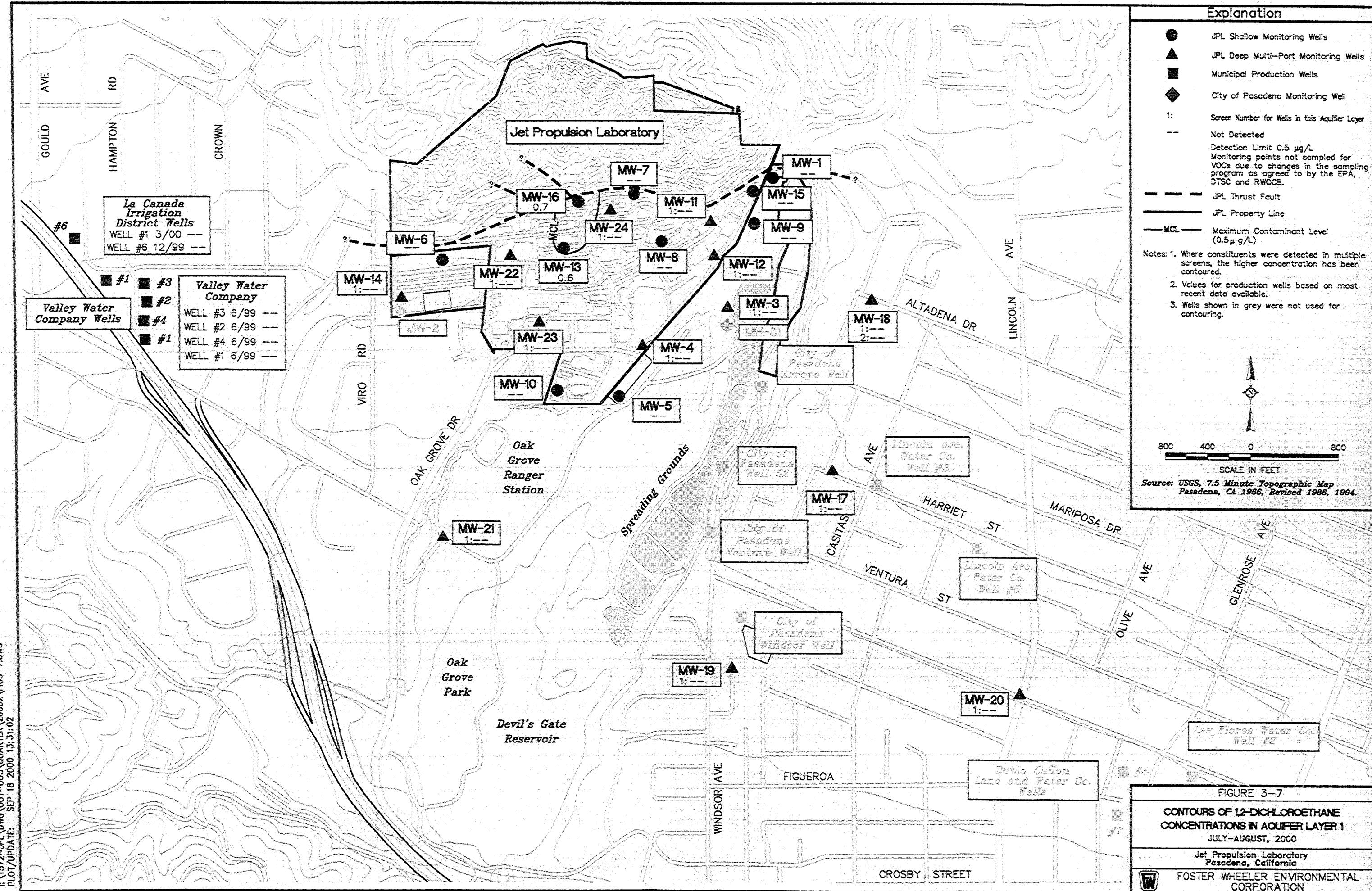


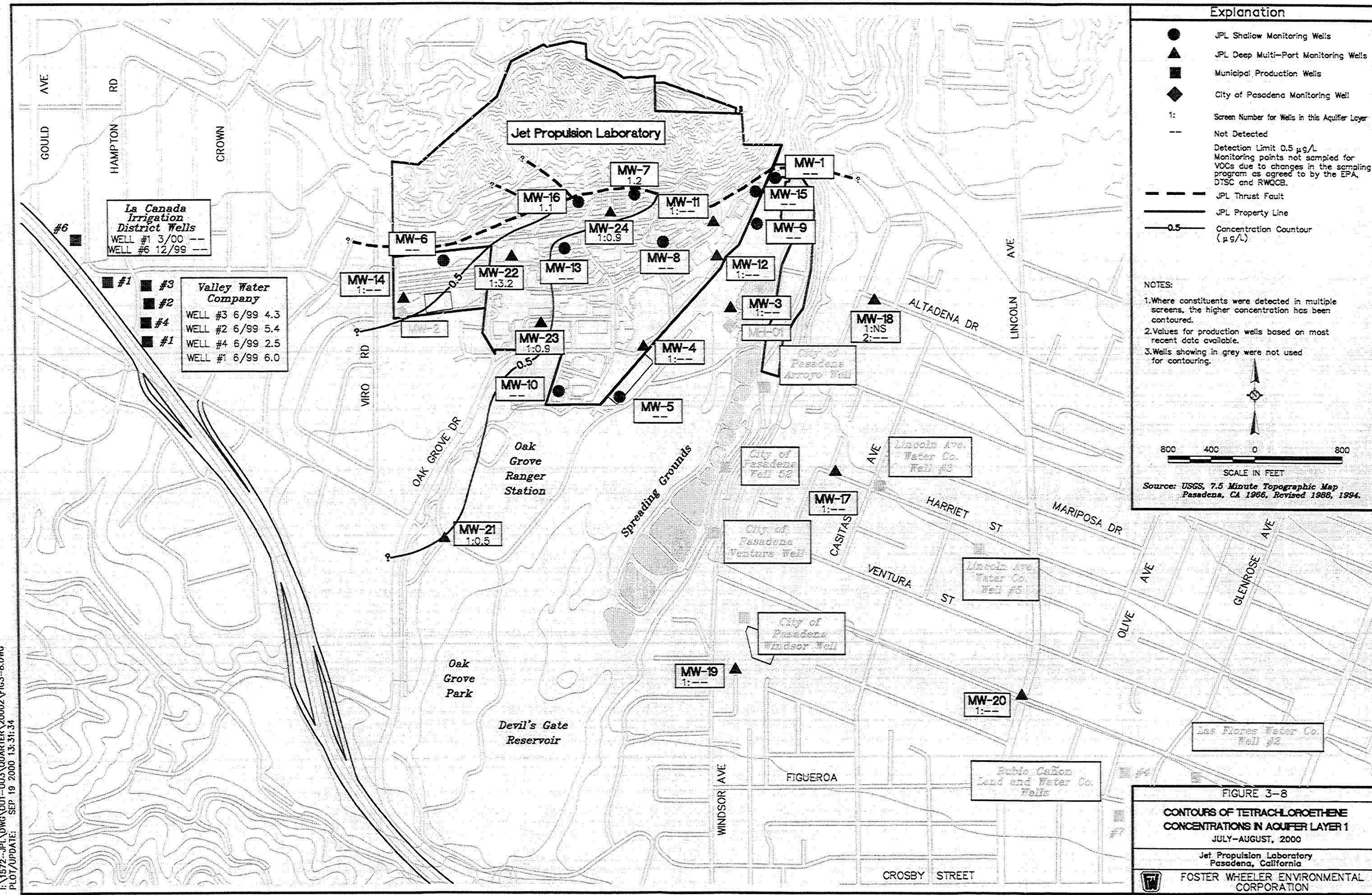


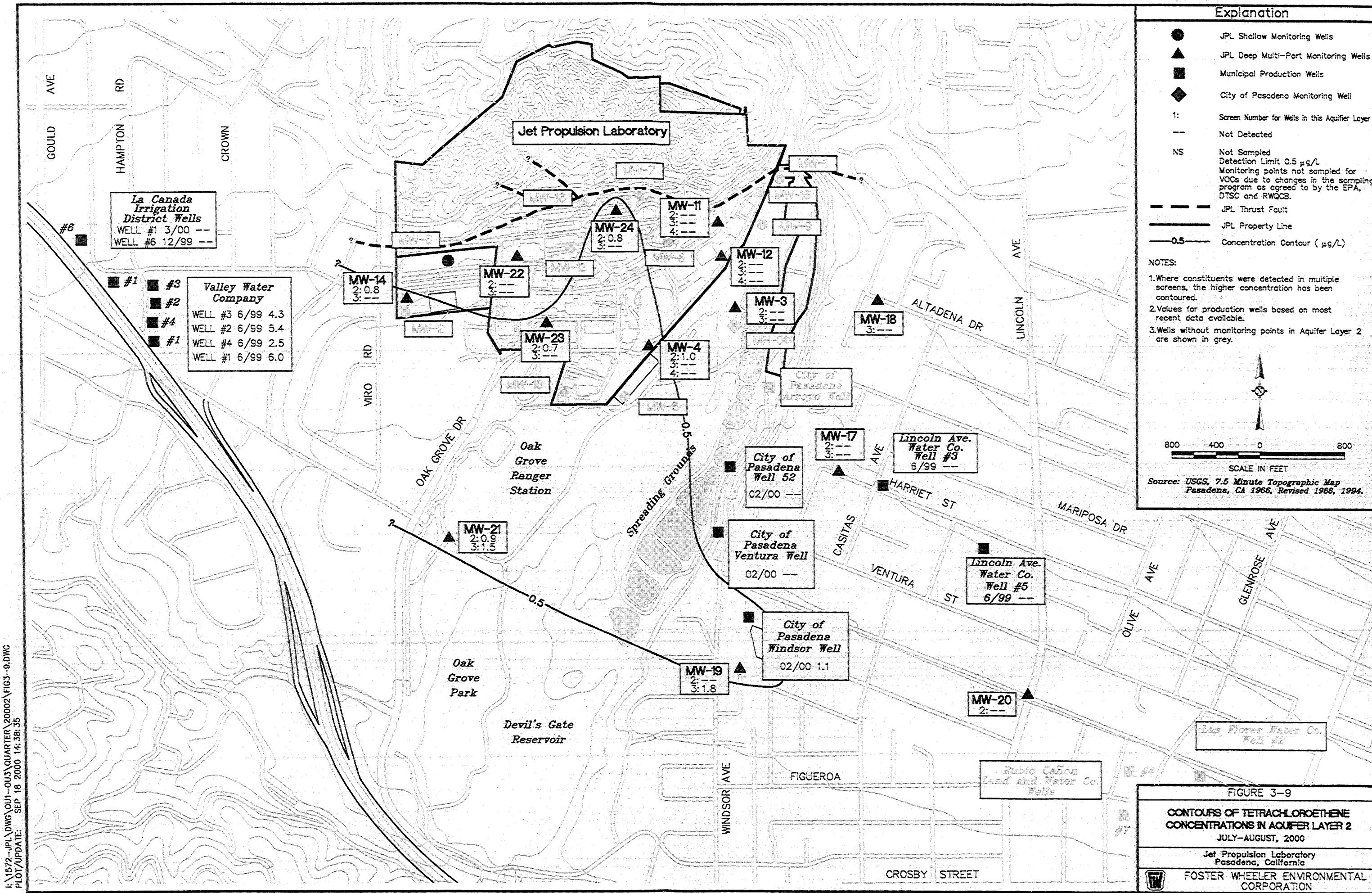


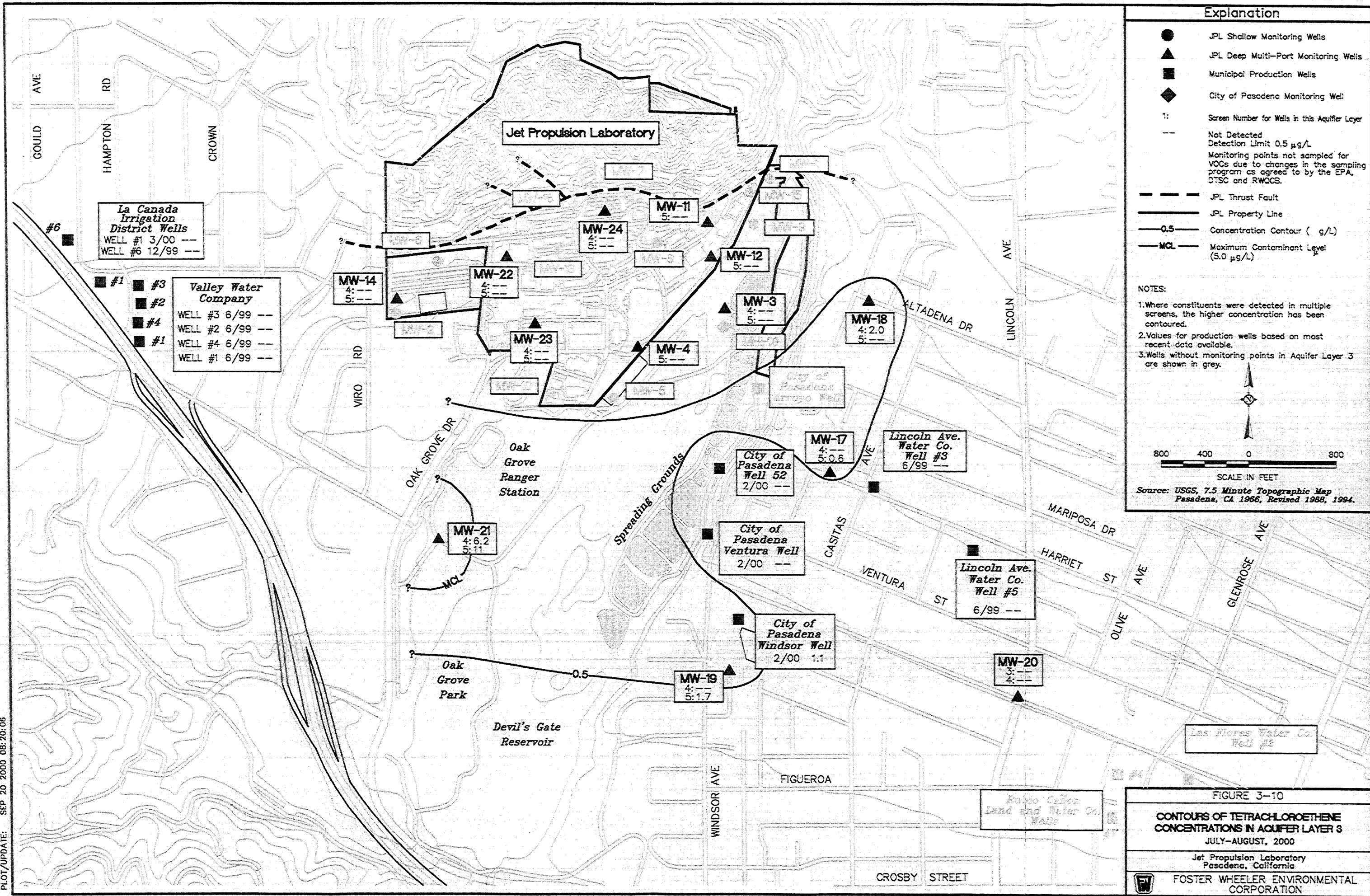










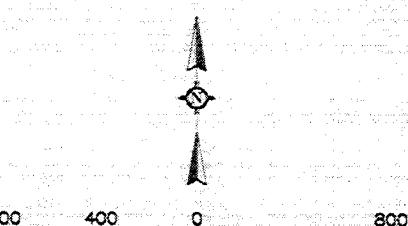


### Explanation

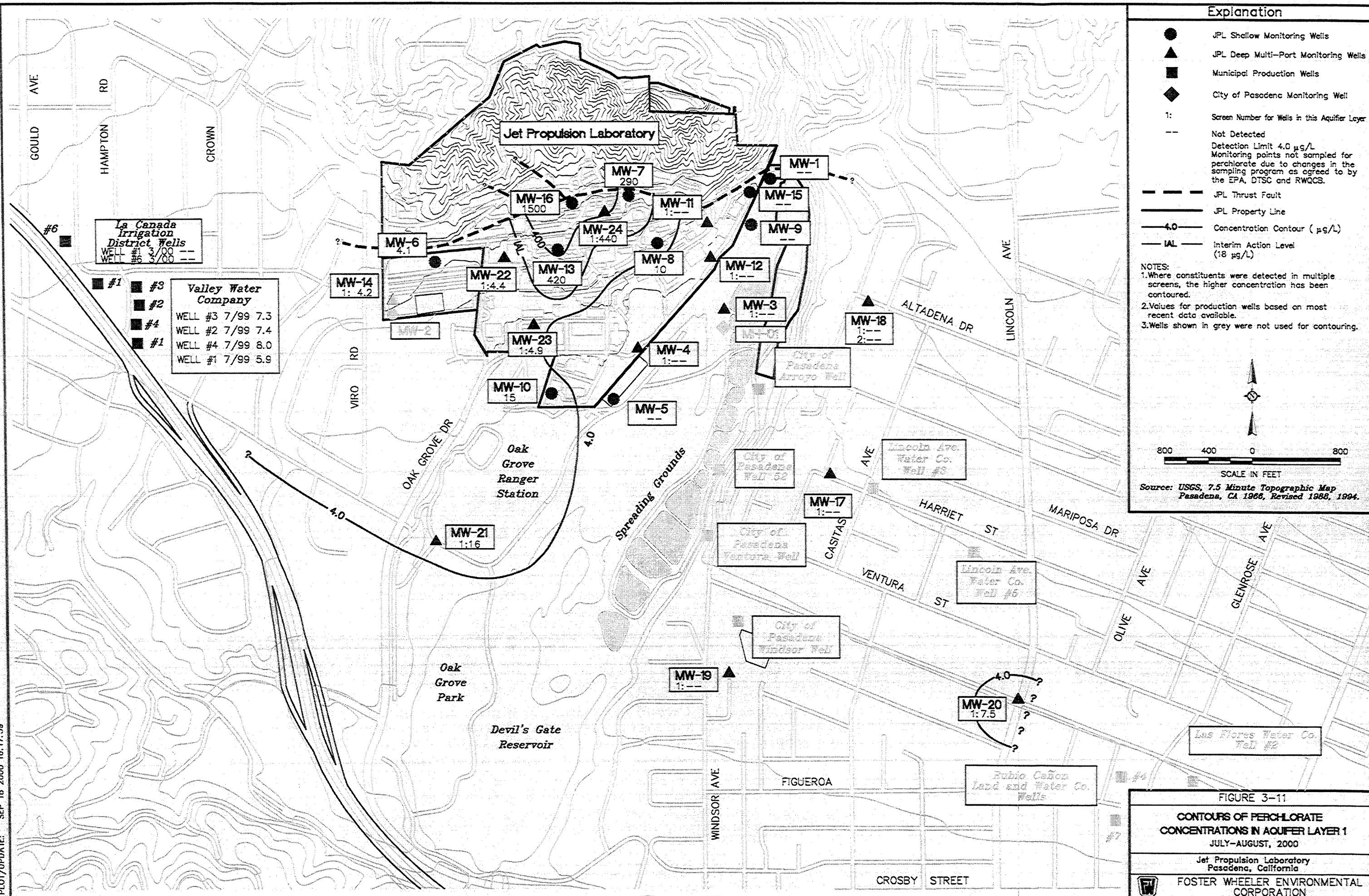
- JPL Shallow Monitoring Wells
- ▲ JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- ◆ City of Pasadena Monitoring Well
- 1: Screen Number for Wells in this Aquifer Layer
- Not Detected
- Detection Limit 4.0  $\mu\text{g/L}$
- Monitoring points not sampled for perchlorate due to changes in the sampling program as agreed to by the EPA, DTSC and RWQCB.
- - - JPL Thrust Fault
- - - JPL Property Line
- 4.0 Concentration Contour ( $\mu\text{g/L}$ )
- IAL Interim Action Level (18  $\mu\text{g/L}$ )

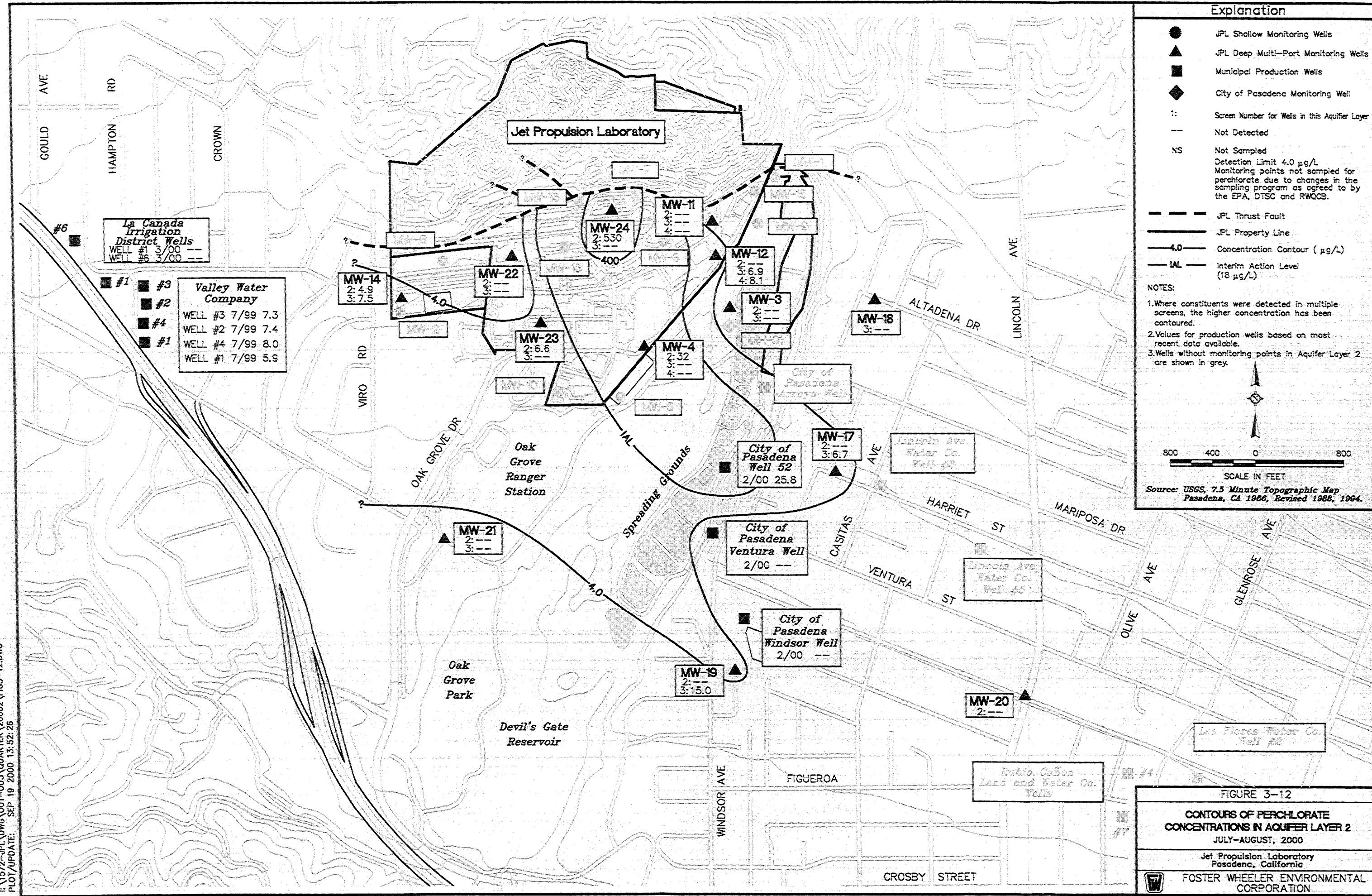
NOTES:

- Where constituents were detected in multiple screens, the higher concentration has been contoured.
- Values for production wells based on most recent data available.
- Wells shown in grey were not used for contouring.



Source: USGS, 7.5 Minute Topographic Map  
Pasadena, CA 1966, Revised 1988, 1994.





### Explanation

- JPL Shallow Monitoring Wells
- ▲ JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- ◆ City of Pasadena Monitoring Well
- 1: Screen Number for Wells in this Aquifer Layer
- Not Detected
- NS Not Sampled
- Detection Limit 4.0  $\mu\text{g}/\text{L}$
- Monitoring points not sampled for perchlorate due to changes in the sampling program as agreed to by the EPA, DTSC and RWQCB.
- - - JPL Thrust Fault
- - - JPL Property Line
- 4.0 Concentration Contour ( $\mu\text{g}/\text{L}$ )
- IAL Interim Action Level (18  $\mu\text{g}/\text{L}$ )

### NOTES:

1. Where constituents were detected in multiple screens, the higher concentration has been contoured.
2. Values for production wells based on most recent data available.
3. Wells without monitoring points in Aquifer Layer 3 are shown in grey.

SCALE IN FEET  
800 400 0 400 800

Source: USGS, 7.5 Minute Topographic Map  
Pasadena, CA 1986, Revised 1986, 1994.

FIGURE 3-13

CONTOURS OF PERCHLORATE CONCENTRATIONS IN AQUIFER LAYER 3  
JULY-AUGUST, 2000

Jet Propulsion Laboratory  
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

